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Status and Predicted Trend of Mountain Pine Beetle Infestations in Upper Yaak River and Sullivan Creek Drainages, Three Rivers and Rexford Ranger Districts, Kootenai National Forest, 1988

Timber, Coopertive Forestry, and Pest Management

USDA Forest Service, Northern Region

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INTRODUCTION

The mountain pine beetle, (*Dendroctonus ponderosae* Hopkins), is by far the most destructive insect pest in the Intermountain West. In the Northern Region alone, an estimated 250 million lodgepole pines have been killed since the current series of infestations began approximately 20 years ago. Though losses have been much more numerous in lodgepole pine than other of the beetle's host species, hundreds of thousands of ponderosa pines, western white pines, whitebark pines, and limber pines have been killed as well. Using a conservative estimate of 50 board feet per lodgepole pine, about 12.25 billion board feet of volume have been killed. While it is difficult, if not unrealistic, to assign a dollar value to that beetle-caused mortality, it is interesting to make calculations based on a few assumptions. The difference in current market values of "dead" and "green" lodgepole pine averages perhaps $35 per 1,000 board feet. If all the lodgepole pine killed (a conservative estimate) could have been sold at a "green" stumpage rate, and instead had been sold at a "dead" stumpage rate, a net loss of $437,500,000 would have been realized. Once again, economic or real losses in ponderosa pine and western white pine have been substantial. While it was not possible, nor desirable, to cut and sell all the trees killed by the mountain pine beetle in the preceding 2 decades, the total number of trees affected has been remarkable. Other regions in the United States and Canada have likewise experienced similar infestations (Gibson 1987).

Infestations on the Kootenai National Forest (NF), and in particular the Yaak River drainage, predate historical records. Indeed, lodgepole pine and the mountain pine beetle have co-evolved. Without doubt, there have been interactions between the two species for as long as they have shared habitats. Forest ecologists long ago described the ecological relationships between overmature lodgepole pine, beetle infestations, and stand-replacing fires as the means by which lodgepole pine has retained its role as a major forest cover type throughout much of western North America (Peterman 1978).

The earliest records in Northern Region files of mountain pine beetle infestations in tributaries of the Yaak River are from a survey conducted by Evenden in 1925. He was attempting to determine the relationships, if any, between outbreaks in western white pine and lodgepole pine along Pete Creek, Garver Creek, and the West Fork of the Yaak River (Evenden 1925). A 1928 survey in the Pete Creek drainage showed one attacked western white pine per 5 acres of surveyed area with reference to a "serious epidemic of mountain pine beetle in lodgepole pine a few miles to the north." Infested white pines in Meadow Creek and O'Brien Creek drainages were also noted (Evenden 1928). References during the next 10 years record beetle-infested stands of western white pine on various parts of the Forest (Terrell 1938, Heath 1939). During the early 1940's surveys were conducted to determine extent of beetle infestations in western white pine stands. A note of interest from a 1942 survey indicates "practically all of the lodgepole pine and a high percentage of the white pine was killed" in the upper portion of the Pete Creek drainage (Terrell 1942).

Recorded evidence of beetle infestations on the northern part of the Kootenai NF during the 1940's refers for the most part to western white pine losses. In a 1947 report, Gibson (1948) reported beetle infestations in lodgepole pine stands on the Warland Ranger District, west of the Kootenai River. He noted that conditions in Pete Creek were "very reassuring." A survey report from 1949 (Rust 1949) showed "above normal" infestations of mountain pine beetle in lodgepole pine stands near Thirsty Mountain, Mount Henry, Upper Ford Ranger Station, and South Fork Hill. Surveys in 1950 showed infestation rates for areas surveyed of generally less than a tree per acre in lodgepole pine stands in what is now the northern portion of Three River Ranger District (RD) (Evenden 1950). In 1955, Terrell (1955) described an infestation near Hensley Hill in which trees had been chemically treated to reduce beetle populations in 1952. Though

treatment at the time had been considered successful, the infestation was observed building once again in 1954.

Interestingly, most early beetle infestations received "treatment" of one kind or another. Infested trees were peeled, piled and burned, or treated with chemicals. It was not until the late 1960's that we came to realize the futility of attempting to control bark beetle outbreaks through individual tree treatment (Klein 1978).

The next record of beetle outbreaks in the Yaak River drainage is from a 1960 report (Tunnock 1960) noting 17,300 acres of widely scattered, single trees killed during the preceding several years on the Sylvanite RD. References to beetle infestations in yearly conditions reports through the 1960's remained small to nonexistent on the Kootenai NF. In 1964 it was noted that lodgepole pines were killed over 11,000 acres in the Yaak River drainage in 1963, but the infestation declined in 1964. A 1966 report recorded "remnants of an outbreak" in lodgepole pine stands near the headwaters of the Yaak River.

Reports through the late 1960's do not refer to infestations on the Kootenai NF; however, by 1970 serious beetle infestations were recorded elsewhere in the Region. On the Gallatin and Lolo National Forests and in Glacier and Yellowstone National Parks beetle populations were beginning to build rapidly.

In 1973, as major infestations continued to develop in other parts of the Region, a new infestation--apparently having started in 1972--was recorded on the Yaak RD. Having been first detected in the Solo Joe and Beaver Creek drainages, the infestations had grown to 833 and 380 acres, respectively, when surveyed by McGregor, et al., in 1974. Their report showed more than 21,000 lodgepole pines had been killed in the years 1972-74 and that an estimated 70,000 could be killed in 1975 (McGregor et al. 1975).

The growth of the infestation in the Yaak River drainage, on the Kootenai NF, and throughout the Northern Region from that time is well recorded. By 1977, an estimated 397,000 lodgepole on 11,700 acres had been killed on the Yaak RD. At the same time, 568,000 acres of lodgepole pine and 73,000 acres of ponderosa pine were infested Regionwide (Tunnock and Dooling 1978).

In 1978, 29,800 acres of mostly lodgepole pine were shown infested on the Kootenai NF, two-thirds of it on the Yaak Ranger District. Forestwide, more than 630,000 trees had been killed. By this time, personnel on the Forest had hazard-rated lodgepole pine stands and had begun the monumental task of salvage logging and hazard reduction in threatened stands.

By 1979, 32,950 acres were infested on the Yaak RD, 48,000 acres Forestwide. In the Region, several infestations--Gallatin, Beaverhead, Lolo, Flathead NF's, and Glacier and Yellowstone NP's--totaled more than 1.3 million acres of lodgepole pine type, 44,000 acres of ponderosa pine, and 38,000 acres of other pine species. Also in 1979, 46.3 million board feet of killed or threatened lodgepole pine had been harvested on the Forest (Park, pers. comm.).

Infestations Regionwide peaked in 1981 at more than 2.4 million acres. By that time, 134,000 acres were infested on the Forest and nearly 74,000 acres on the Yaak RD. Ground data collected that year showed 37 new attacks per acre for the areas surveyed. That was up from eight new attacks per acre recorded in 1980 (Tunnock et al. 1982).

While throughout the Northern Region, beetle infestations began a slow decline in 1982, infested acres increased to 170,000 on the Kootenai NF. On the Yaak RD, just under 74,000 acres were recorded. An average 30 trees per acre, for areas surveyed in the Yaak River drainage, were attacked in 1982 (Kohler et al. 1983).

By 1984, infested acres on the Forest continued to increase--to 607,000 acres. At the same time, acres of infested lodgepole pine peaked on the Yaak RD at just over 107,000 (Table 1). For areas surveyed, an average 24 trees per acre were killed in 1984. Those surveys showed a total of 78 trees per acre had been

killed since the infestation began. In addition, approximately 530 million board feet of dead or susceptible lodgepole had been sold (McGregor et al 1985).

Though the Forestwide total of acres infested on the Kootenai NF increased again in 1985 to 570,000, the infestation on the Yaak RD began a steady decline. There, 82,000 acres were shown infested, but new attacks had declined to under six per acre. Regionwide, infested acres were also down to 934,000 (Byler et al. 1986).

In 1987, while the Kootenai NF still harbored the largest area of mountain pine beetle infestation in the Region, both showed continued declines. In the Region, 721,000 acres are still infested; the Kootenai NF has nearly half of that total at more than 318,000 acres. On the Yaak RD, infested acres continued to decline to slightly more than 10,600. The infestation has virtually run its course in the Pete Creek, Solo Joe, Beaver Creek drainages where it began some 16 years ago. The last vestiges of the infestation, in the upper reaches of the Yaak River, are now concentrated near Mount Henry, Robinson Mountain, and across the Sullivan Creek divide near Clingback Mountain. Surveys completed there, following the 1987 beetle flight, show an average 13 trees per acre attacked in 1987. Compared to slightly more than nine trees per acre attacked in 1986, a "buildup" ratio of 1.4 indicates the infestation in that part of the Forest will likely continue for a few years more.

Table 1.--Acres of lodgepole pine infested by mountain pine beetle on the Yaak RD. (Data from annual aerial detection surveys and followup ground surveys).

Year	Infested acres	Average new attacks/acre
1975	5,110	No data collected
1976	18,894	No data collected
1977	15,572	No data collected
1978	19,820	21.2
1979	32,951	11.0
1980	64,565	14.0
1981	74,315	24.8
1982	73,817	30.1
1983	54,504	9.1
1984	107,449	24.2
1985	82,230	5.7
1986	33,824	No data collected
1987	10,633	11.1

1988 SURVEY

At the request of personnel on the Kootenai NF, surveys were conducted in proposed and existing timber sale areas to determine status and predicted trend of mountain pine beetle populations in those areas. Some units in some sale areas have been logged. Others scheduled for removal may be delayed. It is of value to the land manager to know what beetle-caused mortality currently exists in those stands and what may yet occur if harvesting is postponed for additional attack periods of the beetle.

Nine existing sale areas--six on the Three Rivers RD (upper Yaak River) and three on the Rexford RD (upper Sullivan Creek)--plus six proposed sale areas were surveyed (Table 2). All are experiencing some level of current beetle activity or have within the past 2 years.

Table 2.--Sale areas in which data to determine mountain pine beetle activity were collected: Three Rivers/Rexford RD's, 1988.

Existing sales	Cutting units	Total acres	Total volume remaining (MMBF)
Porky	14	396	2.5
Dead Head	3	154	2.2
South Turner	20	529	8.6
Pete Pot	6	174	1.1
East Blacktail	16	575	1.4
Fast Connection	8	375	7.5
Clingback	19	436	9.7
Burro Creek	7	139	2.9
Donkey Oaty	13	281	8.3

Proposed sales	Cutting units	Total acres	Planned volume (MMBF)
Last Fast	10	423	9.0
Lime Aid	18	457	6.4
North Turner	15	708	7.0
Pork Basin	11	387	8.0
Lower Basin	15	918	23.0
Luau	8	200	4.0

Each sale area is comprised of a number of cutting units. Because it was not possible to survey each unit, we sampled two or three units within 13 of the 15 sale areas. The two areas not surveyed were ones in which several of the units had been logged (East Blacktail) or where beetle activity was less recent (Pete Pot).

In each cutting unit surveyed, at least five variable radius plots were established on which data were collected. Data points were established along a compass line running through the cutting unit to take advantage of the unit's longest dimension. Along the compass line, plots were on 5-chain centers. At each plot center, a Spiegel Relaskop (basal area factor = 10) was used to determine "in" trees. Each "in" tree equal to or greater than 5 inches d.b.h. (diameter breast height) was tallied. For each tree we recorded species, diameter (to nearest inch), and "damage" code. Damage codes were as follows:

0 - Green, undamaged tree
1 - Dead, unknown mortality factors
2 - Successful 1987 mountain pine beetle attack
3 - Successful 1986 mountain pine beetle attack
4 - Killed by mountain pine beetle prior to 1986
5 - Unsuccessful 1987 beetle attack ("pitchout")
6 - 1987 partial attack ("strip" attack)
7 - Partial attack prior to 1987
8 - Killed by secondary bark beetles in 1987
9 - Killed by secondary bark beetles prior to 1987
10 - Partial attack ("strip") by secondary beetles

Data were recorded in the field on Husky Hunter electronic data recorders. Data were analyzed using the computer program INDIDS (Bousfield 1980).

In total, 128 cutting units were sampled. Data were collected on 146 individual plots (one plot line contained six plots, one 10; the other 26, five each).

RESULTS

Survey results are presented in Table 3. Data are presented by unit in each sale area. Units marked with an asterisk (*) are those from which data were collected. Actual mortality estimates, represented by 1987 attacks--from field surveys--and predicted mortality for 1988 and 1989--from loss prediction model--are extrapolated onto timber cruise data for units we did not sample. Units which contained no live lodgepole pine, or which have already been logged, were not included in the analysis.

Percentage of lodgepole pine merchantable volume killed in 1987 in the 125 sale areas analyzed ranged from zero--Porky and Fast Connection--to 36 in Lower Basin. Estimates of additional mortality in 1988, based on computer runs of Cole's Loss Prediction Model (Cole and McGregor 1983), vary from 5 percent of the remaining green lodgepole pine volume in Fast Connection and Last Fast to 32 percent in North Turner. Finally, 3-year-loss estimates--including that already killed in 1987--range from 12 percent, also in Fast Connection and Last Fast, to 64 percent in Lower Basin (Table 3, Appendix 1).

Estimates of lodgepole pine per acre attacked and killed in 1987 (five-plot average) range from zero on several plot sets to 61 on Donkey Oaty (unit 23). Mortality estimates for the total 28 plot sets showed 13.2 trees per acre killed in 1987, 9.3 per acre killed in 1986. Those two figures are used to determine a "buildup ratio"--a comparison of trees attacked in any particular year to the preceding year (Baker 1968). Computing the buildup ratio reveals 1.4 trees were attacked in 1987 for every one attacked in 1986. Applying that ratio to the trees attacked in 1987 shows 18.5 trees per acre could be attacked in 1988. Several factors affect the reality of that prediction, including weather, survival of developing beetle broods, and availability of susceptible hosts. Under ideal conditions, however, that is quite likely a conservative estimate. In our Region, buildup ratios of 10:1 are not uncommon. Plot data show, and loss prediction model outputs concur, that there are sufficient beetle host to support continuously increasing beetle populations for the next several years.

Table 3.--Live lodgepole pine volume[1], 1987 beetle-killed volume (measured/estimated)[2], and 1988/1989 beetle-killed volume (predicted)[3] by cutting unit; Yaak-92 Sales Areas; Three Rivers and Rexford RD's, 1988.

Sale area	Unit	Acres	Live LPP (MBF)	Dead '87 (MBF)	%	Pred. loss '88 (MBF)	%	Pred. loss '88/89 (MBF)	%	3-yr. loss total (MBF)	%
Porky	7	50	778	0	--	101.1	13	210.0	27	210.0	27
	10	14	184	0	--	23.9	13	49.7	27	49.7	27
	12	29	290	0	--	37.7	13	78.4	27	78.4	27
Total		93	1,252	0	--	162.7	13	338.1	27	338.1	
Dead Head	1*	115	450	63.0	14	65.8	17	119.9	31	182.3	41
	2*	28	84	0	--	3.4	4	8.4	10	8.4	10
	3*	11	50	8.6	17	11.3	27	20.5	49	29.1	58
Total		154	584	71.6	12	80.5	14	148.8	26	219.8	38
South Turner	1	13	48	1.4	3	2.8	6	5.3	11	6.8	14
	2	8	19	0.6	3	1.1	6	2.2	11	2.7	14
	3	28	220	6.6	3	12.8	6	24.6	11	31.2	14
	4	12	123	3.7	3	7.2	6	13.7	11	17.4	14
	5	17	97	2.9	3	5.7	6	10.8	11	13.8	14
	7	35	111	3.3	3	6.5	6	12.4	11	15.7	14
	8	30	198	5.9	3	11.5	6	22.1	11	28.6	14
	9*	82	145	8.7	6	16.4	12	31.4	23	40.1	28
	11	43	280	8.4	3	16.3	6	31.3	11	39.7	14
	13	19	157	4.7	3	9.2	6	17.6	11	22.3	14
	14	14	24	0.7	3	1.4	6	2.7	11	3.4	14
Total		301	1,422	46.9	3	90.9	7	174.1	13	221.7	16
Pete Pot	2	19	67	8.9	13	9.6	14	16.6	25	25.5	38
	3	30	233	31.1	13	33.5	14	57.9	25	89.0	38
	5	44	612	81.5	13	87.8	14	151.8	25	233.3	38
Total		93	912	121.5	13	130.9	14	226.3	25	347.8	38
East Blacktail	8	13	127	17.0	13	18.3	14	31.6	25	48.6	38
	11	33	478	63.8	13	68.7	14	118.7	25	182.5	38
	12	9	0	--	--	--	--	--	--	--	--
	14	17	0	--	--	--	--	--	--	--	--
	104	10	93	12.5	13	13.4	14	23.2	25	35.7	38
Total		82	698	93.3	13	100.4	14	173.5	15	266.8	38

[1] Timber sale cruise data
[2] Ground-collected data
[3] Loss prediction model

Table 3.--Live lodgepole pine volume[1], 1987 beetle-killed volume (measured/estimated)[2], and 1988/1989 beetle-killed volume (predicted)[3] by cutting unit; Yaak-92 Sales Areas; Three Rivers and Rexford RD's, 1988, con.

Sale area	Unit	Acres	Live LPP (MBF)	Dead '87 (MBF)	%	Pred. loss '88 (MBF)	%	Pred. loss '88/89 (MBF)	%	3-yr. loss total (MBF)	%
Fast Connection	1	7	201	0	--	10.1	5	24.1	12	24.1	12
	2	24	362	0	--	18.1	5	43.4	12	43.4	12
	3	53	602	0	--	30.1	5	72.3	12	72.3	12
	4	20	227	0	--	11.4	5	27.3	12	27.3	12
	5	37	273	0	--	13.7	5	32.8	12	32.8	12
	6*	135	1,294	0	--	77.6	6	181.1	14	181.1	14
	7	14	246	0	--	12.3	5	29.6	12	29.6	12
	8*	85	1,520	0	--	60.8	4	145.9	10	145.9	10
Total		375	4,725	0	--	234.1	5	556.5	12	556.5	12
Clingback	436	27	317	13.6	4	13.6	8	25.2	15	59.1	19
	437	13	417	17.9	4	33.1	8	59.9	15	77.8	19
	3114	27	623	26.8	4	49.5	8	89.4	15	116.2	19
	3115	40	436	18.8	4	34.7	8	62.6	15	81.4	19
	3116*	30	609	0	--	42.6	7	91.3	15	91.3	15
	3117*	15	82	0	--	1.6	2	3.3	4	3.3	4
	3118	24	423	18.2	4	33.6	8	60.7	15	78.9	19
	3119*	19	356	46.3	13	49.6	16	80.5	26	126.8	19
	3147	20	304	13.1	4	24.1	8	43.6	15	56.7	19
	3141	15	236	10.1	4	18.7	8	33.9	15	44.0	19
	3142	24	192	8.3	4	15.3	8	27.7	15	36.0	19
	3143	25	580	24.9	4	46.0	8	83.2	15	108.1	19
	3144	13	99	4.3	4	7.9	8	14.2	15	18.5	19
	3145	30	608	26.1	4	48.3	8	87.3	15	113.5	19
	3121	31	446	19.2	4	35.4	8	64.0	15	83.2	19
	439	30	680	29.2	4	54.0	8	97.6	15	126.8	19
	3122	24	574	24.7	4	45.6	8	82.4	15	107.1	19
	3146	29	286	12.3	4	22.7	8	41.0	15	53.3	19
Total		436	7,268	313.8	4	576.3	8	1,047.8	15	1,382.0	19
Burro Creek	2	15	93	16.3	17	13.9	18	28.1	37	44.4	48
	3*	20	221	42.1	19	25.1	14	59.2	33	101.3	46
	4	16	296	51.7	17	43.9	18	89.0	37	140.7	48
	5*	30	352	56.3	16	65.0	22	118.3	40	174.6	50
	19	25	32	5.6	17	4.7	18	9.6	37	15.2	48
	21	21	382	66.9	17	56.8	18	115.2	37	182.1	48
Total		127	1,376	238.9	17	209.4	15	419.4	30	658.3	48
Last Fast	1	31	396	3.4	1	19.6	5	43.2	11	47.2	12
	2	18	299	3.0	1	14.8	5	32.6	11	35.6	12
	3	19	215	2.2	1	10.7	5	23.5	11	25.6	12
	4	66	818	8.2	1	40.5	5	89.1	11	97.3	12
	5	30	454	4.5	1	22.5	5	49.5	11	54.1	12
	6	51	533	5.3	1	26.4	5	58.1	11	63.4	12
	7*	116	1,543	0	--	77.2	5	169.8	11	169.8	11
	8	44	387	3.9	1	19.2	5	42.2	11	46.1	12
	9	13	190	1.9	1	9.4	5	20.7	11	22.6	12
	10*	35	449	9.0	2	22.0	5	48.5	11	57.5	13
Total		423	5,284	41.4	1	262.3	5	577.2	11	619.2	12

Table 3.--Live lodgepole pine volume[1], 1987 beetle-killed volume (measured/estimated)[2], and 1988/1989 beetle-killed volume (predicted)[3] by cutting unit; Yaak-92 Sales Areas; Three Rivers and Rexford RD's, 1988, con.

Sale area	Unit	Acres	Live LPP (MBF)	Dead '87 (MBF)	%	Pred. loss '88 (MBF)	%	Pred. loss '88/89 (MBF)	%	3-yr. loss total (MBF)	%
Lime Aid	1	23	145	18.1	12	18.4	14	27.9	22	46.0	32
	2	88	515	64.4	13	65.4	14	99.2	22	163.6	32
	3	35	624	78.1	13	79.2	14	120.2	22	198.3	32
	4	37	78	9.8	13	9.9	14	15.0	22	24.8	32
	5	27	218	27.2	13	27.6	14	41.9	22	69.2	32
	6	30	117	14.6	12	14.9	14	22.5	22	37.2	32
	7	25	122	15.2	12	15.4	14	23.4	22	38.6	32
	8	43	280	35.0	13	35.6	14	54.0	22	89.0	32
	9	24	220	27.4	12	27.9	14	42.3	22	69.7	32
	10	15	117	14.6	12	14.8	14	22.5	22	37.1	32
	11	25	225	28.2	13	28.6	14	43.4	22	71.5	32
	12*	12	36	0	--	1.4	4	2.9	8	2.9	8
	13*	33	352	87.9	25	65.9	25	94.9	36	182.8	52
	14	21	26	3.2	12	3.3	14	4.9	22	8.1	31
	15	13	122	15.3	13	15.5	14	23.6	22	38.9	32
Total		451	3,197	439.0	14	423.8	15	638.6	23	1,077.7	34
North Turner	1*	115	253	0	--	55.6	22	103.6	41	103.6	41
	2	78	269	45.7	17	74.8	33	100.5	37	146.3	54
	3*	73	128	43.6	34	38.1	45	41.5	32	85.1	66
	4	73	182	31.0	17	50.6	33	68.0	37	99.0	54
	5	65	119	20.3	17	33.1	33	44.5	37	64.8	54
	7	19	29	5.0	17	8.2	33	11.0	37	16.0	54
	10	47	49	8.4	17	13.7	33	18.4	37	26.8	54
	11	23	99	16.8	17	27.5	33	36.9	37	53.7	54
	12	82	319	54.3	17	88.8	33	119.3	37	173.6	54
	13	26	29	4.9	17	8.0	33	10.7	37	15.6	54
	15	3	2	0.2	17	0.3	33	0.5	37	0.7	54
	16	7	6	1.0	17	1.7	33	2.2	37	3.2	54
Total		611	1,484	231.2	16	400.4	32	557.1	44	788.4	53
Pork Basin	1	48	599	71.9	12	100.2	19	197.7	37	269.6	45
	2*	54	641	64.1	10	144.3	25	271.2	47	335.3	52
	3	41	420	50.4	12	70.3	19	138.7	37	189.1	45
	4	11	95	11.3	12	15.8	19	31.2	37	42.5	45
	5	23	66	7.9	12	11.0	19	21.7	37	29.5	45
	6	29	114	13.7	12	19.0	19	37.6	37	51.3	45
	7*	97	706	98.9	12	78.9	13	170.0	28	268.9	38
	8	28	169	20.2	12	28.2	19	55.7	37	75.9	45
	9	18	434	52.1	12	72.5	19	143.2	37	195.3	45
	10	29	229	27.5	12	38.3	19	75.6	37	103.1	45
	11	9	10	1.3	12	1.7	19	3.5	37	4.7	45
Total		387	3,483	419.3	12	580.2	19	1,146.1	45	1,565.2	45

Table 3.--Live lodgepole pine volume[1], 1987 beetle-killed volume (measured/estimated)[2], and 1988/1989 beetle-killed volume (predicted)[3] by cutting unit; Yaak-92 Sales Areas; Three Rivers and Rexford RD's, 1988, con.

Sale area	Unit	Acres	Live LPP (MBF)	Dead '87 (MBF)	%	Pred. loss '88 (MBF)	%	Pred. loss '88/89 (MBF)	%	3-yr. loss total (MBF)	%
Lower Basin	1	28	464	167.1	36	96.5	33	136.6	46	303.7	65
	2	10	23	8.4	36	4.9	33	6.9	46	15.3	65
	3*	50	479	249.1	52	117.3	51	149.5	65	398.5	83
	4	107	642	231.2	36	133.6	33	189.1	46	420.3	65
	5	99	862	310.3	36	179.3	33	253.7	46	564.0	65
	6	63	355	127.6	36	74.9	33	104.4	46	232.0	65
	7	24	206	74.1	36	43.5	33	60.6	46	134.6	65
	8	126	649	233.7	36	137.1	33	191.1	46	424.9	65
	9	35	268	96.5	36	56.6	33	78.9	46	175.4	65
	10	145	669	133.9	20	75.0	14	144.6	27	278.5	42
	12	41	240	86.3	36	50.6	33	70.5	46	156.8	65
	13	47	185	66.5	36	39.0	33	54.4	46	121.0	65
	14	58	545	196.1	36	115.1	33	160.4	46	356.5	65
	15	31	161	57.9	36	33.9	33	47.3	46	105.2	65
	16	54	468	168.4	36	98.8	33	137.7	46	306.2	65
Total		918	6,216	2,207.1	31	1,256.1	45	1,785.7	64	3,992.9	64
Luau	1	15	154	25.4	16	37.3	29	64.3	50	89.7	58
	2	6	48	7.9	16	11.6	29	20.0	50	27.8	58
	3	35	56	9.3	16	13.6	29	23.5	50	32.8	58
	4*	8	45	8.0	18	11.7	32	22.3	61	30.4	68
	5	58	654	107.9	16	158.3	29	273.0	50	380.9	58
	6	28	388	64.1	16	94.0	29	162.1	50	226.2	58
	7*	6	60	9.0	15	13.2	26	19.8	39	28.8	48
	8	44	612	101.0	16	148.3	29	255.6	50	356.7	58
Total		200	2,017	332.6	16	488.0	29	840.6	50	1,173.3	58

DISCUSSION

We have attempted, through historical and ecological evidence, to establish the mutualistic relationship between mountain pine beetle and lodgepole pine. In the absence of human influence on the environment, that relationship would carry on devoid of terms such as "loss," "devastation," and "catastrophic." Humans have altered their environment, however, and now--for better or worse--we find ourselves in direct competition with forest pests for forest-derived amenities.

We have further attempted to show that mountain pine beetles, being somewhat opportunistic, are quite adept at taking advantage of a situation which we have created through our success in controlling wildfires. As a result of fire suppression over the last 80 to 100 years, vast reserves of lodgepole pine have developed and matured throughout much of western North America. Having noted that stands of lodgepole pine highly susceptible to the beetle are those exceeding 80 years of age, it is easy for one to see the peculiar predicament in which we found ourselves some 20 years ago. Likewise, statistics noted earlier document the result.

Now we are in the unique position of being at the end of what quite likely will be the last of the great mountain pine beetle infestations. We believe we have learned enough about population dynamics of the beetle and ways to silviculturally alter host stand susceptibility that we have the ability to forestall such massive outbreaks in the future. Still, this outbreak has not run its course and without efforts to curtail beetle-caused mortality, much valuable timber will yet be killed.

Despite the tree killing which has occurred during recent infestations, salvage and sanitation logging throughout the Region has resulted in losses being far less than they would have otherwise been. During 1978, on the Kootenai NF alone, 5.2 million board feet of killed or threatened timber were harvested. In 1979, that figure rose to 46.3 million board feet. Another 42.2 million board feet were sold in 1980 (Park, pers. comm.). By 1982, harvest totals for the Kootenai showed 71 million board feet of high-hazard green lodgepole were cut and another 21 million board feet of recently killed trees were salvaged (McGregor et al. 1983). Through 1985 more than 530 million board feet of susceptible green or recently killed lodgepole pine had been sold in infested or threatened stands. To date, an additional 260 million board feet have been placed under contract but not yet cut (Park, pers. comm.). The existing and scheduled sales in the upper Yaak River and head of Sullivan Creek are a continuation of the effort to not only reduce economic losses, but also to remove significant amounts of the beetles' food supply.

Data presented in Table 3 and Appendix I show the effect beetles will have on infested stands if nothing is done to prevent their spread in the next few years. Because beetles kill the largest diameter trees in the stand--those of greatest economic value and those which also produce the highest number of beetles--in the first several years of an outbreak, the greatest benefit is realized the sooner action to alter stand susceptibility is taken. Should harvests scheduled in the next year or two be postponed beyond 3 or 4 years, most of the projected beetle-caused mortality in those stands will have already occurred. In addition to direct losses in high-hazard stands, beetle populations may become such that smaller diameter, less susceptible stands will be attacked. That phenomenon is common in unchecked, intensive beetle outbreaks.

CONCLUSION

Management alternatives to reduce losses in susceptible stands are varied and well known. Management plans developed for infested and threatened stands on the Kootenai NF have adequately addressed that issue. Time is the critical factor. Left to run its natural course, this latest infestation will continue to deplete the timber and associated resource values in the Yaak River and Sullivan Creek drainages.

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	10	145	669	133.9	20	75.0	14	144.6	27	278.5	42
	12	41	240	86.3	36	50.6	33	70.5	46	156.8	65
	13	47	185	66.5	36	39.0	33	54.4	46	121.0	65
	14	58	545	196.1	36	115.1	33	160.4	46	356.5	65
	15	31	161	57.9	36	33.9	33	47.3	46	105.2	65
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APPENDIX I

Computer-generated data showing mountain pine beetle effects on lodgepole pine following 1987 flight and 10-year trend prediction for 28 acres surveyed on Three Rivers and Rexford Ranger Districts.

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = PORKY PEST #3 IDENT NO. = 104

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
0- 4.9	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	96.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	96.9
	BA	32.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	32.0
5- 8.9	CFA	790.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	790.2
	BFA	3153.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	3153.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	54.0	.0	6.1	9.1	.0	.0	.0	.0	.0	.0	.0	.0	7.6	76.7
	BA	30.0	.0	4.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	4.0	44.0
9-11.9	CFA	831.8	.0	113.6	170.3	.0	.0	.0	.0	.0	.0	.0	.0	110.2	1225.9
	BFA	3799.7	.0	536.8	805.3	.0	.0	.0	.0	.0	.0	.0	.0	497.9	5639.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	59.8	.0	14.5	35.0	.0	.0	2.2	.0	.0	.0	.0	.0	.0	111.5
	BA	56.0	.0	14.0	36.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	108.0
12 +	CFA	1682.1	.0	421.5	1095.0	.0	.0	59.7	.0	.0	.0	.0	.0	.0	3258.3
	BFA	8366.9	.0	2103.5	5500.8	.0	.0	296.3	.0	.0	.0	.0	.0	.0	16267.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	210.8	.0	20.6	44.1	.0	.0	2.2	.0	.0	.0	.0	.0	7.6	285.2
	BA	118.0	.0	18.0	42.0	.0	.0	2.0	.0	.0	.0	.0	.0	4.0	184.0
TOTALS	CFA	3304.1	.0	535.1	1265.3	.0	.0	59.7	.0	.0	.0	.0	.0	110.2	5274.5
	BFA	15320.0	.0	2640.3	6306.0	.0	.0	296.3	.0	.0	.0	.0	.0	497.9	25060.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = PORKY PEST #3 IDENT NO. = 104

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.17
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	96.94	32.78	84.75	45.72	13.88	3.53	.00	277.60
B/A	.00	.00	.00	32.00	16.00	62.00	46.00	18.00	6.00	.00	180.00
TOT MORT.	.00	.00	.00	.00	.00	30.43	26.79	6.32	1.13	.00	64.68
CUR. ATCK.	.00	.00	.00	1.24	.68	2.99	2.29	1.25	.53	.00	8.97
CFA	.00	.00	.00	790.24	434.35	1789.00	1391.48	564.29	194.89	.00	5164.26
BFA	.00	.00	.00	3153.48	1920.72	8606.22	6973.36	2892.46	1016.43	.00	24562.67

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	95.5	1.48	31.9	.84	49.8	4.51	15.5	3.39	4.2	3.34	1.6	.82	.0	.00
2	.0	.00	.0	.00	.0	.00	93.7	1.73	30.9	1.02	43.7	6.10	11.6	3.94	.9	3.33	.8	.75	.0	.00
3	.0	.00	.0	.00	.0	.00	91.8	1.98	29.7	1.20	36.6	7.09	8.3	3.34	.2	.70	.5	.37	.0	.00
4	.0	.00	.0	.00	.0	.00	89.5	2.22	28.4	1.34	29.8	6.80	6.2	2.07	.1	.05	.3	.12	.0	.00
5	.0	.00	.0	.00	.0	.00	87.1	2.42	26.9	1.43	24.5	5.33	5.2	1.01	.1	.00	.3	.03	.0	.00
6	.0	.00	.0	.00	.0	.00	84.5	2.57	25.5	1.45	21.0	3.51	4.7	.43	.1	.00	.3	.01	.0	.00
7	.0	.00	.0	.00	.0	.00	81.9	2.65	24.1	1.38	19.0	2.03	4.6	.17	.1	.00	.3	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	79.2	2.64	22.9	1.25	17.9	1.08	4.5	.07	.1	.00	.3	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	76.7	2.54	21.8	1.08	17.3	.55	4.5	.03	.1	.00	.3	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	74.3	2.38	20.9	.89	17.0	.27	4.5	.01	.1	.00	.3	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	74.33	20.89	17.05	4.46	.13	.31	.00	117.17
B/A	.00	.00	.00	24.54	10.20	12.47	4.49	.17	.52	.00	52.39
CFA	.00	.00	.00	605.94	276.88	359.80	135.80	5.39	16.92	.00	1400.72
BFA	.00	.00	.00	2418.03	1224.36	1730.86	680.57	27.61	88.22	.00	6169.64

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = DEADHEAD PEST #1 IDENT NO. = 111

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	45.6	4.8	.0	13.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	63.7
	BA	13.3	1.7	.0	3.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	18.3
	CFA	308.3	42.1	.0	70.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	420.4
	BFA	1226.8	169.4	.0	274.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1670.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	15.5	6.8	.0	27.3	3.8	.0	3.1	.0	.0	.0	.0	.0	.0	56.4
	BA	8.3	3.3	.0	13.3	1.7	.0	1.7	.0	.0	.0	.0	.0	.0	28.3
	CFA	229.7	90.5	.0	362.0	44.5	.0	46.0	.0	.0	.0	.0	.0	.0	772.7
	BFA	1041.7	400.1	.0	1600.6	191.2	.0	208.9	.0	.0	.0	.0	.0	.0	3442.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	18.2	1.4	.0	6.7	.0	.0	.8	.0	.0	.0	.0	.0	.0	27.2
	BA	15.0	1.7	.0	6.7	.0	.0	1.7	.0	.0	.0	.0	.0	.0	25.0
	CFA	440.7	51.8	.0	201.2	.0	.0	55.1	.0	.0	.0	.0	.0	.0	748.8
	BFA	2156.6	264.6	.0	1006.6	.0	.0	289.6	.0	.0	.0	.0	.0	.0	3717.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	79.3	13.0	.0	47.3	3.8	.0	3.9	.0	.0	.0	.0	.0	.0	147.3
	BA	36.7	6.7	.0	23.3	1.7	.0	3.3	.0	.0	.0	.0	.0	.0	71.7
	CFA	978.7	184.4	.0	633.1	44.5	.0	101.1	.0	.0	.0	.0	.0	.0	1941.8
	BFA	4425.1	834.1	.0	2881.7	191.2	.0	498.6	.0	.0	.0	.0	.0	.0	8830.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = DEADHEAD PEST #1 IDENT NO. = 111

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.37
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	25.47	38.20	53.91	17.38	10.10	1.36	.00	.85	147.26
B/A	.00	.00	5.00	13.33	26.67	13.33	10.00	1.67	.00	1.67	71.67
TOT MORT.	.00	.00	8.49	9.55	34.14	.00	6.73	1.36	.00	.00	60.27
CUR. ATCK.	.00	.00	.10	4.77	6.83	.61	.51	1.36	.00	.13	14.30
CFA	.00	.00	83.70	336.66	725.35	387.39	301.79	51.84	.00	55.13	1941.85
BFA	.00	.00	315.38	1355.42	3218.91	1877.02	1509.84	264.57	.00	289.62	8830.77

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	16.9	.06	23.5	5.19	12.8	7.00	16.4	.94	2.6	.73	.0	.00	.0	.00	.7	.12
2	.0	.00	.0	.00	16.9	.04	18.9	4.58	8.2	4.61	15.1	1.34	1.8	.79	.0	.00	.0	.00	.6	.10
3	.0	.00	.0	.00	16.9	.02	15.6	3.29	6.1	2.08	13.4	1.73	1.3	.59	.0	.00	.0	.00	.6	.07
4	.0	.00	.0	.00	16.8	.01	13.6	2.01	5.3	.76	11.4	1.94	.9	.31	.0	.00	.0	.00	.5	.04
5	.0	.00	.0	.00	16.8	.01	12.5	1.09	5.1	.25	9.6	1.84	.8	.13	.0	.00	.0	.00	.5	.03
6	.0	.00	.0	.00	16.8	.01	11.9	.56	5.0	.08	8.1	1.47	.8	.05	.0	.00	.0	.00	.5	.02
7	.0	.00	.0	.00	16.8	.00	11.7	.28	5.0	.03	7.1	1.01	.7	.02	.0	.00	.0	.00	.5	.01
8	.0	.00	.0	.00	16.8	.00	11.5	.13	5.0	.01	6.5	.62	.7	.01	.0	.00	.0	.00	.5	.00
9	.0	.00	.0	.00	16.8	.00	11.5	.06	4.9	.00	6.1	.36	.7	.00	.0	.00	.0	.00	.5	.00
10	.0	.00	.0	.00	16.8	.00	11.4	.03	4.9	.00	5.9	.19	.7	.00	.0	.00	.0	.00	.5	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	16.82	11.43	4.95	5.93	.74	.00	.00	.46	40.33
B/A	.00	.00	3.30	3.99	2.45	4.55	.73	.00	.00	.91	15.93
CFA	.00	.00	55.29	100.70	66.58	132.24	21.96	.00	.00	30.12	406.90
BFA	.00	.00	208.34	405.44	295.47	640.74	109.88	.00	.00	158.24	1818.12

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = DEADHEAD PEST #2 IDENT NO. = 112

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
0- 4.9	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	20.6	.0	.0	4.8	.0	.0	.0	.0	.0	.0	.0	.0	6.2	31.6
	BA	6.7	.0	.0	1.7	.0	.0	.0	.0	.0	.0	.0	.0	1.7	10.0
5- 8.9	CFA	163.4	.0	.0	42.1	.0	.0	.0	.0	.0	.0	.0	.0	37.2	242.6
	BFA	650.1	.0	.0	169.4	.0	.0	.0	.0	.0	.0	.0	.0	141.8	961.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	47.5	.0	3.1	13.7	.0	.0	3.1	.0	.0	.0	.0	.0	.0	67.3
	BA	25.0	.0	1.7	6.7	.0	.0	1.7	.0	.0	.0	.0	.0	.0	35.0
9-11.9	CFA	687.6	.0	46.0	181.0	.0	.0	46.0	.0	.0	.0	.0	.0	.0	960.5
	BFA	3101.4	.0	208.9	800.3	.0	.0	208.9	.0	.0	.0	.0	.0	.0	4319.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	3.7	.0	.0	.0	.0	.0	2.1	.0	.0	.0	.0	.0	.0	5.8
	BA	3.3	.0	.0	.0	.0	.0	1.7	.0	.0	.0	.0	.0	.0	5.0
12 +	CFA	99.4	.0	.0	.0	.0	.0	48.6	.0	.0	.0	.0	.0	.0	148.0
	BFA	492.5	.0	.0	.0	.0	.0	236.2	.0	.0	.0	.0	.0	.0	728.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	71.7	.0	3.1	18.4	.0	.0	5.2	.0	.0	.0	.0	.0	6.2	104.6
	BA	35.0	.0	1.7	8.3	.0	.0	3.3	.0	.0	.0	.0	.0	1.7	50.0
TOTALS	CFA	950.4	.0	46.0	223.1	.0	.0	94.5	.0	.0	.0	.0	.0	37.2	1351.1
	BFA	4244.0	.0	208.9	969.7	.0	.0	445.1	.0	.0	.0	.0	.0	141.8	6009.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = DEADHEAD PEST #2 IDENT NO. = 112

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.56
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	25.34	54.63	16.87	1.56	.00	.00	.00	98.39
B/A	.00	.00	.00	8.33	26.67	11.67	1.67	.00	.00	.00	48.33
TOT MORT.	.00	.00	.00	4.77	16.71	.00	.00	.00	.00	.00	21.49
CUR. ATCK.	.00	.00	.00	.32	1.13	.60	.08	.00	.00	.00	2.12
CFA	.00	.00	.00	205.48	723.92	333.74	50.84	.00	.00	.00	1313.98
BFA	.00	.00	.00	819.49	3201.19	1590.80	256.33	.00	.00	.00	5867.81

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	20.2	.39	36.5	1.40	16.0	.91	1.4	.12	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	19.7	.45	34.9	1.66	14.7	1.30	1.3	.17	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	19.2	.51	33.0	1.88	13.0	1.68	1.1	.21	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	18.7	.56	31.0	2.00	11.1	1.88	.8	.21	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	18.1	.60	29.0	2.00	9.3	1.79	.7	.17	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	17.4	.62	27.1	1.87	7.9	1.43	.6	.11	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	16.8	.62	25.5	1.64	6.9	.98	.5	.06	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	16.2	.60	24.1	1.36	6.3	.61	.5	.03	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	15.7	.56	23.0	1.07	5.9	.35	.5	.02	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	15.2	.50	22.2	.80	5.8	.19	.5	.01	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	15.16	22.23	5.76	.46	.00	.00	.00	43.60
B/A	.00	.00	.00	4.99	10.85	3.98	.49	.00	.00	.00	20.31
CFA	.00	.00	.00	122.97	294.56	113.92	14.86	.00	.00	.00	546.31
BFA	.00	.00	.00	490.41	1302.54	543.03	74.92	.00	.00	.00	2410.91

BARK BEETLE SURVEY 0/ 4/28
---SPECIES LP ---

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = DEADHEAD PEST #3 IDENT NO. = 110

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	33.0	9.4	.0	7.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	49.6
	BA	10.0	2.5	.0	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	15.0
	CFA	237.7	55.7	.0	63.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	356.6
	BFA	933.6	212.7	.0	254.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	1400.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	37.2	10.2	.0	60.9	10.2	.0	.0	.0	.0	.0	.0	.0	.0	118.7
	BA	20.0	5.0	.0	32.5	5.0	.0	.0	.0	.0	.0	.0	.0	.0	62.5
	CFA	551.3	135.7	.0	893.9	135.7	.0	.0	.0	.0	.0	.0	.0	.0	1716.7
	BFA	2498.3	600.2	.0	4043.2	600.2	.0	.0	.0	.0	.0	.0	.0	.0	7741.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	24.9	4.7	.0	42.2	.0	.0	2.7	.0	.0	.0	.0	.0	.0	74.5
	BA	22.5	5.0	.0	40.0	.0	.0	2.5	.0	.0	.0	.0	.0	.0	70.0
	CFA	671.0	152.5	.0	1200.2	.0	.0	74.6	.0	.0	.0	.0	.0	.0	2098.4
	BFA	3323.8	769.0	.0	5976.9	.0	.0	370.4	.0	.0	.0	.0	.0	.0	10440.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	95.1	24.3	.0	110.3	10.2	.0	2.7	.0	.0	.0	.0	.0	.0	242.7
	BA	52.5	12.5	.0	75.0	5.0	.0	2.5	.0	.0	.0	.0	.0	.0	147.5
	CFA	1460.0	344.0	.0	2157.3	135.7	.0	74.6	.0	.0	.0	.0	.0	.0	4171.7
	BFA	6755.8	1581.9	.0	10274.2	600.2	.0	370.4	.0	.0	.0	.0	.0	.0	19582.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = DEADHEAD PEST #3 IDENT NO. = 110

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.09
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	49.55	107.29	33.65	50.14	2.04	.00	.00	242.67
B/A	.00	.00	.00	15.00	55.00	25.00	50.00	2.50	.00	.00	147.50
TOT MORT.	.00	.00	.00	16.52	67.40	13.34	37.32	.00	.00	.00	134.58
CUR. ATCK.	.00	.00	.00	9.35	10.24	1.19	4.68	.18	.00	.00	25.65
CFA	.00	.00	.00	356.56	1503.79	723.03	1510.57	77.76	.00	.00	4171.71
BFA	.00	.00	.00	1400.44	6735.33	3486.59	7563.24	396.85	.00	.00	19582.45

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	23.5	9.51	28.8	11.06	18.5	1.79	7.1	5.76	1.5	.55	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	16.7	6.87	20.3	8.53	16.1	2.40	3.4	3.67	.6	.91	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	13.0	3.67	15.5	4.81	13.4	2.73	2.1	1.27	.1	.45	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	11.4	1.62	13.3	2.19	10.8	2.56	1.8	.32	.1	.06	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	10.7	.65	12.4	.89	8.9	1.95	1.7	.07	.0	.01	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	10.5	.25	12.1	.35	7.6	1.25	1.7	.02	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	10.4	.09	11.9	.13	6.9	.70	1.7	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	10.3	.04	11.9	.05	6.6	.37	1.7	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	10.3	.01	11.9	.02	6.4	.18	1.7	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	10.3	.00	11.9	.01	6.3	.09	1.7	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	10.32	11.86	6.29	1.71	.05	.00	.00	30.23
B/A	.00	.00	.00	3.12	6.08	4.68	1.71	.06	.00	.00	15.65
CFA	.00	.00	.00	74.24	166.18	135.27	51.65	1.81	.00	.00	429.15
BFA	.00	.00	.00	291.59	744.30	652.29	258.59	9.26	.00	.00	1956.03

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = S. TURNER #6 IDENT NO. = 100

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	CFA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BFA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	.0	.0	3.0	15.8	.0	.0	.0	.0	7.3	.0	.0	.0	.0	26.2
	BA	.0	.0	2.0	10.0	.0	.0	.0	.0	4.0	.0	.0	.0	.0	16.0
	CFA	.0	.0	56.8	282.3	.0	.0	.0	.0	110.3	.0	.0	.0	.0	449.3
	BFA	.0	.0	268.4	1324.4	.0	.0	.0	.0	501.4	.0	.0	.0	.0	2094.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	.0	.0	.0	38.7	.0	.0	.0	.0	2.5	.0	.0	.0	.0	41.3
	BA	.0	.0	.0	38.0	.0	.0	.0	.0	2.0	.0	.0	.0	.0	40.0
	CFA	.0	.0	.0	1148.9	.0	.0	.0	.0	58.3	.0	.0	.0	.0	1207.2
	BFA	.0	.0	.0	5744.2	.0	.0	.0	.0	283.4	.0	.0	.0	.0	6027.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	.0	.0	3.0	54.5	.0	.0	.0	.0	9.9	.0	.0	.0	.0	67.4
	BA	.0	.0	2.0	48.0	.0	.0	.0	.0	6.0	.0	.0	.0	.0	56.0
	CFA	.0	.0	56.8	1431.2	.0	.0	.0	.0	168.6	.0	.0	.0	.0	1656.6
	BFA	.0	.0	268.4	7068.6	.0	.0	.0	.0	784.9	.0	.0	.0	.0	8121.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = S. TURNER #6 IDENT NO. = 100

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.37
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	.00	11.00	32.98	16.46	5.73	1.27	.00	67.44
B/A	.00	.00	.00	.00	6.00	24.00	16.00	8.00	2.00	.00	56.00
TOT MORT.	.00	.00	.00	.00	3.67	30.43	16.46	5.73	1.27	.00	57.56
CUR. ATCK.	.00	.00	.00	.00	.23	1.16	.82	.52	.19	.00	2.92
CFA	.00	.00	.00	.00	165.45	691.98	481.56	253.26	64.34	.00	1656.58
BFA	.00	.00	.00	.00	752.16	3326.11	2404.49	1305.04	334.11	.00	8121.91

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	.0	.00	7.1	.28	1.2	1.31	.0	.00	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	.0	.00	6.7	.33	.6	.69	.0	.00	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	.0	.00	6.3	.38	.4	.19	.0	.00	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	.0	.00	5.9	.40	.3	.04	.0	.00	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	.0	.00	5.6	.39	.3	.01	.0	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	.0	.00	5.2	.37	.3	.00	.0	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	.0	.00	4.9	.32	.3	.00	.0	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	.0	.00	4.6	.26	.3	.00	.0	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	.0	.00	4.4	.20	.3	.00	.0	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	.0	.00	4.3	.15	.3	.00	.0	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	.00	4.26	.31	.00	.00	.00	.00	4.57
B/A	.00	.00	.00	.00	2.32	.23	.00	.00	.00	.00	2.55
CFA	.00	.00	.00	.00	64.06	6.53	.00	.00	.00	.00	70.60
BFA	.00	.00	.00	.00	291.23	31.41	.00	.00	.00	.00	322.64

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = S. TURNER #9 IDENT NO. = 101

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	66.6	.0	.0	4.8	.0	.0	4.8	.0	.0	.0	.0	.0	.0	76.2
	BA	18.3	.0	.0	1.7	.0	.0	1.7	.0	.0	.0	.0	.0	.0	21.7
	CFA	410.3	.0	.0	42.1	.0	.0	42.1	.0	.0	.0	.0	.0	.0	494.4
	BFA	1574.7	.0	.0	169.4	.0	.0	169.4	.0	.0	.0	.0	.0	.0	1913.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	46.1	5.6	27.3	30.4	.0	3.1	6.1	.0	.0	.0	.0	.0	.0	118.5
	BA	25.0	3.3	15.0	16.7	.0	1.7	3.3	.0	.0	.0	.0	.0	.0	65.0
	CFA	690.5	93.3	414.8	460.8	.0	46.0	91.9	.0	.0	.0	.0	.0	.0	1797.2
	BFA	3136.9	432.6	1889.2	2098.2	.0	208.9	417.9	.0	.0	.0	.0	.0	.0	8183.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	12.4	.0	17.4	36.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	66.0
	BA	10.0	.0	16.7	38.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	65.0
	CFA	292.7	.0	502.6	1174.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	1970.0
	BFA	1427.9	.0	2506.1	5921.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	9855.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	125.1	5.6	44.8	71.3	.0	3.1	10.9	.0	.0	.0	.0	.0	.0	260.7
	BA	53.3	3.3	31.7	56.7	.0	1.7	5.0	.0	.0	.0	.0	.0	.0	151.7
	CFA	1393.4	93.3	917.4	1677.6	.0	46.0	134.0	.0	.0	.0	.0	.0	.0	4261.6
	BFA	6139.5	432.6	4395.3	8188.7	.0	208.9	587.3	.0	.0	.0	.0	.0	.0	19952.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER- 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = S. TURNER #9 IDENT NO. = 101

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.90
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.71	55.45	88.24	62.14	26.44	1.19	5.66	.85	260.68
B/A	.00	.00	3.33	18.33	45.00	45.00	26.67	1.67	10.00	1.67	151.67
TOT MORT.	.00	.00	.00	4.77	45.65	38.90	24.63	1.19	5.66	.85	121.66
CUR. ATCK.	.00	.00	.08	.71	3.06	2.53	1.32	.11	.85	.13	8.78
CFA	.00	.00	41.38	453.05	1229.46	1296.51	806.94	52.76	326.40	55.13	4261.62
BFA	.00	.00	105.13	1808.41	5499.46	6227.08	4044.97	271.88	1705.82	289.62	19952.38

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	20.7	.05	49.8	.84	38.9	3.69	19.6	3.65	.5	1.26	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	20.6	.03	48.8	.98	34.9	4.04	15.3	4.29	.2	.37	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	20.6	.02	47.7	1.12	30.9	3.94	11.4	3.86	.1	.05	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	20.6	.01	46.5	1.25	27.5	3.42	8.8	2.63	.1	.01	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	20.6	.01	45.1	1.36	24.8	2.65	7.4	1.44	.1	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	20.6	.00	43.7	1.43	23.0	1.88	6.7	.68	.1	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	20.6	.00	42.2	1.45	21.7	1.25	6.4	.30	.1	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	20.6	.00	40.8	1.42	20.9	.79	6.3	.13	.1	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	20.6	.00	39.5	1.35	20.4	.49	6.2	.05	.1	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	20.6	.00	38.2	1.24	20.2	.29	6.2	.02	.1	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.59	38.22	20.15	6.17	.12	.00	.00	.00	85.25
B/A	.00	.00	3.31	12.64	10.28	4.47	.12	.00	.00	.00	30.82
CFA	.00	.00	41.12	312.28	280.75	128.80	3.63	.00	.00	.00	766.58
BFA	.00	.00	104.49	1246.51	1255.81	618.61	18.21	.00	.00	.00	3243.62

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = FAST CONNECTION 6 IDENT NO. = 113

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	60.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	60.0
	BA	.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.3
5- 8.9	TA	108.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	108.8
	BA	24.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	24.0
	CFA	456.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	456.7
	BFA	1635.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1635.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	131.3	.0	20.3	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	156.1
	BA	70.0	.0	10.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	82.0
	CFA	1929.2	.0	272.2	53.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	2254.8
	BFA	8728.9	.0	1207.5	229.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	10165.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	18.4	.0	4.4	2.2	.0	.0	1.4	.0	.0	.0	.0	.0	.0	26.4
	BA	16.0	.0	4.0	2.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	24.0
	CFA	474.4	.0	119.3	59.7	.0	.0	63.3	.0	.0	.0	.0	.0	.0	716.7
	BFA	2338.6	.0	591.0	296.3	.0	.0	326.3	.0	.0	.0	.0	.0	.0	3552.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	318.4	.0	24.7	6.7	.0	.0	1.4	.0	.0	.0	.0	.0	.0	351.3
	BA	110.3	.0	14.0	4.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	130.3
	CFA	2860.3	.0	391.5	113.1	.0	.0	63.3	.0	.0	.0	.0	.0	.0	3428.3
	BFA	12703.2	.0	1798.5	525.8	.0	.0	326.3	.0	.0	.0	.0	.0	.0	15353.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = FAST CONNECTION 6 IDENT NO. = 113

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.89
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	60.00	.00	59.89	48.88	113.63	57.71	8.08	3.06	.00	.00	351.26
B/A	.33	.00	10.00	14.00	54.00	40.00	8.00	4.00	.00	.00	130.33
TOT MORT.	.00	.00	.00	.00	21.78	5.58	4.04	.00	.00	.00	31.39
CUR. ATCK.	.00	.00	.23	.63	2.34	2.04	.40	.28	.00	.00	5.91
CFA	.00	.00	132.78	323.92	1459.94	1144.68	241.43	125.52	.00	.00	3428.28
BFA	.00	.00	378.46	1257.31	6407.98	5458.48	1207.87	643.74	.00	.00	15353.84

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	59.8	.14	48.1	.74	88.9	2.91	49.0	3.11	3.4	.61	2.2	.83	.0	.00	.0	.00
2	.0	.00	.0	.00	59.7	.09	47.3	.87	85.4	3.50	44.6	4.39	2.7	.75	.9	1.37	.0	.00	.0	.00
3	.0	.00	.0	.00	59.6	.05	46.3	1.00	81.4	4.02	39.1	5.55	2.0	.70	.2	.68	.0	.00	.0	.00
4	.0	.00	.0	.00	59.6	.03	45.1	1.12	77.0	4.38	33.1	6.03	1.5	.49	.1	.10	.0	.00	.0	.00
5	.0	.00	.0	.00	59.6	.02	43.9	1.22	72.5	4.51	27.6	5.50	1.2	.27	.1	.01	.0	.00	.0	.00
6	.0	.00	.0	.00	59.5	.01	42.6	1.30	68.2	4.37	23.3	4.22	1.1	.13	.1	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	59.5	.01	41.3	1.34	64.2	3.98	20.5	2.79	1.0	.05	.1	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	59.5	.00	40.0	1.33	60.8	3.42	18.9	1.66	1.0	.02	.1	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	59.5	.00	38.7	1.28	58.0	2.80	18.0	.92	1.0	.01	.1	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	59.5	.00	37.5	1.20	55.8	2.19	17.5	.49	1.0	.00	.1	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	60.00	.00	59.53	37.48	55.78	17.47	1.01	.07	.00	.00	171.34
B/A	.33	.00	9.94	10.73	26.51	12.11	1.00	.09	.00	.00	60.71
CFA	.00	.00	131.97	248.38	716.66	346.51	30.13	2.93	.00	.00	1476.58
BFA	.00	.00	376.15	964.08	3145.57	1652.35	150.75	15.02	.00	.00	6303.92

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = FAST CONNECTION 8 IDENT NO. = 111

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
0- 4.9	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	217.7	.0	.0	11.5	.0	.0	.0	.0	.0	.0	.0	.0	45.2	274.3
	BA	58.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	8.0	70.0
5- 8.9	CFA	1274.5	.0	.0	101.0	.0	.0	.0	.0	.0	.0	.0	.0	116.6	1492.1
	BFA	4882.2	.0	.0	406.6	.0	.0	.0	.0	.0	.0	.0	.0	378.5	5667.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	123.8	.0	3.0	10.6	.0	.0	.0	.0	.0	.0	.0	.0	7.6	145.0
	BA	64.0	.0	2.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	4.0	76.0
9-11.9	CFA	1754.0	.0	56.8	167.0	.0	.0	.0	.0	.0	.0	.0	.0	110.2	2088.0
	BFA	7874.1	.0	268.4	766.3	.0	.0	.0	.0	.0	.0	.0	.0	497.9	9406.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	29.1	.0	5.1	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	36.7
	BA	24.0	.0	4.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	30.0
12 +	CFA	706.0	.0	116.6	58.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	880.9
	BFA	3456.9	.0	566.9	283.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	4307.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	370.6	.0	8.1	24.6	.0	.0	.0	.0	.0	.0	.0	.0	52.8	456.1
	BA	146.0	.0	6.0	12.0	.0	.0	.0	.0	.0	.0	.0	.0	12.0	176.0
TOTALS	CFA	3734.5	.0	173.4	326.3	.0	.0	.0	.0	.0	.0	.0	.0	226.8	4461.0
	BFA	16213.2	.0	835.3	1456.4	.0	.0	.0	.0	.0	.0	.0	.0	876.3	19381.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = FAST CONNECTION 8 IDENT NO. = 111

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.50
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	70.08	159.03	110.19	60.38	2.17	1.43	.00	.00	403.29
B/A	.00	.00	12.00	50.00	54.00	44.00	2.00	2.00	.00	.00	164.00
TOT MORT.	.00	.00	.00	11.46	4.53	16.73	.00	.00	.00	.00	32.72
CUR. ATCK.	.00	.00	.27	2.04	2.27	2.13	.11	.13	.00	.00	6.94
CFA	.00	.00	166.26	1209.24	1466.79	1268.88	59.71	63.31	.00	.00	4234.19
BFA	.00	.00	504.61	4784.24	6493.04	6100.38	296.34	326.26	.00	.00	18504.87

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	69.9	.16	145.1	2.42	102.8	2.83	40.4	3.23	2.0	.17	1.0	.39	.0	.00	.0	.00
2	.0	.00	.0	.00	69.8	.10	142.3	2.83	99.4	3.43	36.0	4.44	1.8	.24	.4	.64	.0	.00	.0	.00
3	.0	.00	.0	.00	69.8	.06	139.1	3.23	95.4	4.00	30.6	5.33	1.5	.29	.1	.32	.0	.00	.0	.00
4	.0	.00	.0	.00	69.7	.04	135.5	3.60	91.0	4.46	25.3	5.36	1.2	.29	.0	.04	.0	.00	.0	.00
5	.0	.00	.0	.00	69.7	.02	131.6	3.91	86.2	4.72	20.8	4.44	.9	.23	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	69.7	.01	127.5	4.11	81.5	4.74	17.8	3.09	.8	.15	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	69.7	.01	123.3	4.19	77.0	4.50	15.9	1.87	.7	.09	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	69.7	.01	119.2	4.12	73.0	4.03	14.9	1.04	.7	.04	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	69.7	.00	115.2	3.93	69.5	3.44	14.3	.55	.6	.02	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	69.7	.00	111.6	3.62	66.7	2.80	14.0	.28	.6	.01	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	69.65	111.62	66.72	14.03	.63	.03	.00	.00	262.69
B/A	.00	.00	11.93	35.09	32.70	10.22	.58	.05	.00	.00	90.57
CFA	.00	.00	165.25	848.74	888.11	294.77	17.45	1.48	.00	.00	2215.79
BFA	.00	.00	501.54	3357.93	3931.39	1417.19	86.62	7.61	.00	.00	9302.27

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = CLINGBACK 3116 IDENT NO. = 702

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	80.2	.0	.0	.0	.0	.0	.0	.0	5.7	.0	.0	.0	38.0	124.0
	BA	24.0	.0	.0	.0	.0	.0	.0	.0	2.0	.0	.0	.0	8.0	34.0
	CFA	565.3	.0	.0	.0	.0	.0	.0	.0	50.5	.0	.0	.0	145.0	760.8
	BFA	2229.9	.0	.0	.0	.0	.0	.0	.0	203.3	.0	.0	.0	548.6	2981.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	68.2	.0	6.1	4.5	.0	.0	.0	.0	7.3	.0	.0	.0	.0	86.2
	BA	38.0	.0	4.0	2.0	.0	.0	.0	.0	4.0	.0	.0	.0	.0	48.0
	CFA	1053.9	.0	113.6	53.4	.0	.0	.0	.0	110.3	.0	.0	.0	.0	1331.2
	BFA	4816.7	.0	536.8	229.5	.0	.0	.0	.0	501.4	.0	.0	.0	.0	6084.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	27.6	.0	3.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	31.0
	BA	26.0	.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	30.0
	CFA	782.0	.0	124.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	906.0
	BFA	3893.0	.0	630.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4523.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	176.0	.0	9.5	4.5	.0	.0	.0	.0	13.1	.0	.0	.0	38.0	241.2
	BA	88.0	.0	8.0	2.0	.0	.0	.0	.0	6.0	.0	.0	.0	8.0	112.0
	CFA	2401.2	.0	237.6	53.4	.0	.0	.0	.0	160.8	.0	.0	.0	145.0	2998.1
	BFA	10939.6	.0	1167.3	229.5	.0	.0	.0	.0	704.8	.0	.0	.0	548.6	13589.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = CLINGBACK 3116 IDENT NO. = 702

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.57
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.19	75.77	52.83	46.07	14.59	.00	3.67	.00	203.12
B/A	.00	.00	2.00	24.00	26.00	32.00	14.00	.00	6.00	.00	104.00
TOT MORT.	.00	.00	.00	.00	4.53	6.06	2.17	.00	1.27	.00	14.03
CUR. ATCK.	.00	.00	.04	.97	1.09	1.63	.73	.00	.55	.00	5.00
CFA	.00	.00	33.48	582.33	706.68	916.05	420.55	.00	193.95	.00	2853.04
BFA	.00	.00	126.15	2307.05	3131.79	4369.78	2096.90	.00	1009.37	.00	13041.06

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	10.2	.02	74.6	1.15	46.9	1.36	37.5	2.48	11.3	1.14	.0	.00	1.6	.84	.0	.00
2	.0	.00	.0	.00	10.1	.01	73.3	1.35	45.3	1.64	34.0	3.49	9.7	1.57	.0	.00	.8	.75	.0	.00
3	.0	.00	.0	.00	10.1	.01	71.7	1.55	43.4	1.90	29.7	4.37	7.9	1.81	.0	.00	.4	.36	.0	.00
4	.0	.00	.0	.00	10.1	.01	70.0	1.74	41.3	2.11	25.0	4.68	6.2	1.68	.0	.00	.3	.11	.0	.00
5	.0	.00	.0	.00	10.1	.00	68.1	1.90	39.1	2.22	20.8	4.21	5.0	1.23	.0	.00	.3	.03	.0	.00
6	.0	.00	.0	.00	10.1	.00	66.1	2.01	36.9	2.21	17.6	3.17	4.3	.75	.0	.00	.3	.01	.0	.00
7	.0	.00	.0	.00	10.1	.00	64.0	2.07	34.8	2.07	15.5	2.07	3.9	.40	.0	.00	.3	.00	.0	.00
8	.0	.00	.0	.00	10.1	.00	61.9	2.06	33.0	1.84	14.3	1.21	3.7	.20	.0	.00	.3	.00	.0	.00
9	.0	.00	.0	.00	10.1	.00	60.0	1.99	31.4	1.55	13.7	.67	3.6	.09	.0	.00	.3	.00	.0	.00
10	.0	.00	.0	.00	10.1	.00	58.1	1.86	30.2	1.25	13.3	.35	3.5	.04	.0	.00	.3	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.12	58.10	30.17	13.31	3.52	.00	.30	.00	115.53
B/A	.00	.00	1.99	18.40	14.85	9.25	3.38	.00	.49	.00	48.35
CFA	.00	.00	33.27	446.52	403.58	264.65	101.43	.00	15.86	.00	1265.32
BFA	.00	.00	125.38	1769.00	1788.54	1262.46	505.76	.00	82.57	.00	5533.71

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = CLINGBACK 3117 IDENT NO. = 904

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	431.1	.0	.0	31.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	463.0
	BA	112.0	.0	.0	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	120.0
	CFA	2415.4	.0	.0	168.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2583.4
	BFA	9248.2	.0	.0	658.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	9907.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	11.2	.0	.0	4.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	15.8
	BA	6.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	8.0
	CFA	165.4	.0	.0	53.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	218.8
	BFA	748.6	.0	.0	229.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	978.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	2.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.5
	BA	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0
	CFA	58.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	58.3
	BFA	283.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	283.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	444.9	.0	.0	36.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	481.3
	BA	120.0	.0	.0	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	130.0
	CFA	2639.1	.0	.0	221.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	2860.5
	BFA	10280.3	.0	.0	888.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	11168.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = CLINGBACK 3117 IDENT NO. = 904

HABITAT TYPE *** AVERAGE LPP DBH 5+ 7.03
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	201.28	261.70	12.72	5.58	.00	.00	.00	.00	481.27
B/A	.00	.00	36.00	84.00	6.00	4.00	.00	.00	.00	.00	130.00
TOT MORT.	.00	.00	20.37	11.46	4.53	.00	.00	.00	.00	.00	36.36
CUR. ATCK.	.00	.00	.76	3.35	.26	.20	.00	.00	.00	.00	4.57
CFA	.00	.00	533.39	2049.98	162.03	115.08	.00	.00	.00	.00	2860.47
BFA	.00	.00	1766.14	8141.03	709.64	551.85	.00	.00	.00	.00	11168.66

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	180.4	.47	246.3	3.98	7.9	.32	5.3	.30	.0	.00	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	180.1	.29	241.6	4.66	7.5	.38	4.8	.43	.0	.00	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	180.0	.18	236.3	5.33	7.1	.43	4.3	.55	.0	.00	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	179.9	.11	230.3	5.95	6.6	.45	3.7	.62	.0	.00	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	179.8	.07	223.8	6.48	6.2	.45	3.1	.59	.0	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	179.7	.04	217.0	6.84	5.7	.41	2.6	.47	.0	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	179.7	.03	210.0	7.00	5.4	.35	2.3	.33	.0	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	179.7	.02	203.1	6.92	5.1	.29	2.1	.20	.0	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	179.7	.01	196.5	6.62	4.9	.22	2.0	.11	.0	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	179.7	.01	190.3	6.14	4.7	.16	1.9	.06	.0	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	173.68	190.32	4.72	1.90	.00	.00	.00	.00	376.63
B/A	.00	.00	32.14	61.09	2.23	1.37	.00	.00	.00	.00	96.82
CFA	.00	.00	476.15	1490.88	60.13	39.28	.00	.00	.00	.00	2066.45
BFA	.00	.00	1576.63	5920.68	263.36	188.38	.00	.00	.00	.00	7949.06

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = CLINGBACK 3119 IDENT NO. = 701

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	210.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	7.5	217.5
	BA	50.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	52.0
	CFA	1010.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	44.6	1055.4
	BFA	3766.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	170.1	3937.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	163.0	15.5	.0	.0	13.6	3.0	.0	.0	.0	.0	.0	.0	.0	195.1
	BA	88.0	8.0	.0	.0	6.0	2.0	.0	.0	.0	.0	.0	.0	.0	104.0
	CFA	2428.8	218.9	.0	.0	160.3	56.8	.0	.0	.0	.0	.0	.0	.0	2864.7
	BFA	11020.8	981.6	.0	.0	688.4	268.4	.0	.0	.0	.0	.0	.0	.0	12959.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	31.6	13.7	.0	.0	.0	2.2	.0	.0	.0	.0	.0	.0	.0	47.6
	BA	28.0	14.0	.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	44.0
	CFA	832.3	425.1	.0	.0	.0	59.7	.0	.0	.0	.0	.0	.0	.0	1317.1
	BFA	4111.9	2133.3	.0	.0	.0	296.3	.0	.0	.0	.0	.0	.0	.0	6541.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	404.6	29.3	.0	.0	13.6	5.2	.0	.0	.0	.0	.0	.0	7.5	460.2
	BA	166.0	22.0	.0	.0	6.0	4.0	.0	.0	.0	.0	.0	.0	2.0	200.0
	CFA	4271.9	644.0	.0	.0	160.3	116.5	.0	.0	.0	.0	.0	.0	44.6	5237.2
	BFA	18899.6	3114.9	.0	.0	688.4	564.8	.0	.0	.0	.0	.0	.0	170.1	23437.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = CLINGBACK 3119 IDENT NO. = 701

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.73
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	115.31	94.72	146.64	66.32	23.57	4.89	1.27	.00	452.70
B/A	.00	.00	20.00	30.00	72.00	46.00	22.00	6.00	2.00	.00	198.00
TOT MORT.	.00	.00	.00	.00	15.53	.00	10.85	1.63	1.27	.00	29.28
CUR. ATCK.	.00	.00	.44	1.21	15.53	2.34	10.85	1.63	1.27	.00	33.27
CFA	.00	.00	282.87	727.91	1956.29	1316.53	658.08	186.62	64.34	.00	5192.64
BFA	.00	.00	883.07	2883.82	8664.45	6278.75	3271.03	952.45	334.11	.00	23267.67

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	115.0	.27	93.3	1.44	112.9	18.24	62.7	3.58	3.2	9.56	.6	2.70	.0	.00	.0	.00
2	.0	.00	.0	.00	114.9	.17	91.6	1.69	94.7	18.21	57.6	5.12	.9	2.23	.0	.53	.0	.00	.0	.00
3	.0	.00	.0	.00	114.8	.10	89.7	1.94	79.4	15.25	51.0	6.59	.7	.23	.0	.01	.0	.00	.0	.00
4	.0	.00	.0	.00	114.7	.06	87.5	2.17	68.5	10.86	43.6	7.39	.7	.02	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	114.7	.04	85.1	2.37	61.7	6.82	36.6	7.02	.7	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	114.6	.02	82.6	2.51	57.8	3.93	31.0	5.62	.7	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	114.6	.01	80.0	2.59	55.6	2.15	27.1	3.87	.7	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	114.6	.01	77.4	2.58	54.5	1.14	24.7	2.38	.7	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	114.6	.01	74.9	2.49	53.9	.60	23.4	1.36	.7	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	114.6	.00	72.6	2.32	53.6	.31	22.6	.74	.7	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	114.61	72.63	53.60	22.64	.67	.02	.00	.00	264.15
B/A	.00	.00	19.88	23.00	26.32	15.70	.63	.02	.00	.00	85.55
CFA	.00	.00	281.14	558.15	715.02	449.41	18.76	.64	.00	.00	2023.12
BFA	.00	.00	877.69	2211.26	3166.85	2143.30	93.23	3.28	.00	.00	8495.61

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = BURRO CREEK 3 IDENT NO. = 704

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	29.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	29.1
	BA	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	8.0
	CFA	179.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	179.1
	BFA	702.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	702.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	25.5	.0	.0	10.4	.0	.0	.0	.0	4.5	.0	.0	.0	6.7	47.1
	BA	14.0	.0	.0	6.0	.0	.0	.0	.0	2.0	.0	.0	.0	4.0	26.0
	CFA	387.5	.0	.0	167.1	.0	.0	.0	.0	53.4	.0	.0	.0	111.9	720.0
	BFA	1765.6	.0	.0	769.9	.0	.0	.0	.0	229.5	.0	.0	.0	519.1	3284.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	28.8	6.7	.0	6.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	41.9
	BA	30.0	10.0	.0	8.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	48.0
	CFA	914.6	320.2	.0	250.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1485.1
	BFA	4601.1	1658.1	.0	1279.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	7538.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	83.4	6.7	.0	16.8	.0	.0	.0	.0	4.5	.0	.0	.0	6.7	118.1
	BA	52.0	10.0	.0	14.0	.0	.0	.0	.0	2.0	.0	.0	.0	4.0	82.0
	CFA	1481.1	320.2	.0	417.4	.0	.0	.0	.0	53.4	.0	.0	.0	111.9	2384.2
	BFA	7069.7	1658.1	.0	2049.1	.0	.0	.0	.0	229.5	.0	.0	.0	519.1	11525.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = BURRO CREEK 3 IDENT NO. = 704

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.69
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.19	18.94	28.25	17.22	20.50	7.95	8.33	.00	111.38
B/A	.00	.00	2.00	6.00	14.00	12.00	20.00	10.00	14.00	.00	78.00
TOT MORT.	.00	.00	.00	.00	7.33	3.03	5.91	.00	7.20	.00	23.48
CUR. ATCK.	.00	.00	.04	.24	.58	.61	1.87	.72	4.80	.00	8.86
CFA	.00	.00	33.48	145.58	380.91	343.71	602.28	312.15	454.12	.00	2272.23
BFA	.00	.00	126.15	576.76	1691.26	1640.54	3008.43	1596.19	2366.97	.00	11006.30

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	10.2	.02	18.7	.29	20.2	.72	13.3	.93	11.8	2.76	5.8	2.16	.0	1.13	.0	.00
2	.0	.00	.0	.00	10.1	.01	18.3	.34	19.3	.86	12.0	1.29	8.7	3.14	2.2	3.57	.0	.00	.0	.00
3	.0	.00	.0	.00	10.1	.01	17.9	.39	18.3	.98	10.4	1.60	6.1	2.58	.5	1.77	.0	.00	.0	.00
4	.0	.00	.0	.00	10.1	.01	17.5	.43	17.3	1.06	8.7	1.69	4.6	1.53	.2	.25	.0	.00	.0	.00
5	.0	.00	.0	.00	10.1	.00	17.0	.47	16.2	1.07	7.2	1.48	3.9	.72	.2	.02	.0	.00	.0	.00
6	.0	.00	.0	.00	10.1	.00	16.5	.50	15.2	1.02	6.1	1.09	3.6	.30	.2	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	10.1	.00	16.0	.52	14.3	.91	5.4	.70	3.4	.12	.2	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	10.1	.00	15.5	.52	13.5	.76	5.0	.40	3.4	.04	.2	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	10.1	.00	15.0	.50	12.9	.61	4.8	.22	3.4	.02	.2	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	10.1	.00	14.5	.46	12.4	.47	4.7	.11	3.4	.01	.2	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.12	14.53	12.45	4.67	3.37	.19	.00	.00	45.33
B/A	.00	.00	1.99	4.60	6.17	3.26	3.29	.23	.00	.00	19.54
CFA	.00	.00	33.27	111.63	167.83	93.30	99.03	7.28	.00	.00	512.35
BFA	.00	.00	125.38	442.25	745.15	445.33	494.69	37.23	.02	.00	2290.05

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = BURRO CREEK 5 IDENT NO. = 703

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	7.5	5.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	14.7	27.9
	BA	2.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	6.0
	CFA	44.6	50.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	16.2	111.3
	BFA	170.1	203.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	373.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	47.3	14.9	.0	15.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	78.0
	BA	26.0	8.0	.0	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	44.0
	CFA	719.9	220.5	.0	282.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	1222.6
	BFA	3280.5	999.3	.0	1324.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	5604.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	23.0	.0	.0	3.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	26.5
	BA	20.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	24.0
	CFA	592.6	.0	.0	123.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	715.8
	BFA	2921.4	.0	.0	625.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	3546.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	77.8	20.6	.0	19.3	.0	.0	.0	.0	.0	.0	.0	.0	14.7	132.3
	BA	48.0	10.0	.0	14.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	74.0
	CFA	1357.1	271.0	.0	405.5	.0	.0	.0	.0	.0	.0	.0	.0	16.2	2049.7
	BFA	6372.0	1202.6	.0	1949.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	9524.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = BURRO CREEK 5 IDENT NO. = 703

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.64
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	13.21	44.64	46.07	12.12	1.63	.00	.00	117.67
B/A	.00	.00	.00	4.00	22.00	32.00	12.00	2.00	.00	.00	72.00
TOT MORT.	.00	.00	.00	5.73	15.53	15.15	1.87	1.63	.00	.00	39.91
CUR. ATCK.	.00	.00	.00	5.73	11.86	3.03	.61	.15	.00	.00	21.37
CFA	.00	.00	.00	95.08	598.09	916.05	362.15	62.21	.00	.00	2033.57
BFA	.00	.00	.00	373.45	2651.61	4369.78	1811.80	317.48	.00	.00	9524.13

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	3.0	4.49	17.4	11.72	26.5	4.42	9.3	.94	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	1.5	1.53	10.4	6.94	21.2	5.34	8.0	1.30	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	1.1	.32	7.7	2.72	16.1	5.04	6.5	1.50	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	1.1	.06	6.9	.86	12.5	3.65	5.1	1.38	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	1.1	.01	6.6	.25	10.4	2.11	4.1	1.01	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	1.1	.00	6.5	.07	9.3	1.06	3.5	.61	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	1.1	.00	6.5	.02	8.8	.49	3.2	.33	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	1.1	.00	6.5	.01	8.6	.22	3.0	.16	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	1.1	.00	6.5	.00	8.5	.09	2.9	.08	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	1.1	.00	6.5	.00	8.5	.04	2.9	.04	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	1.07	6.51	8.46	2.90	.00	.00	.00	18.95
B/A	.00	.00	.00	.32	3.21	5.88	2.87	.00	.00	.00	12.28
CFA	.00	.00	.00	7.70	87.28	168.28	86.65	.00	.00	.00	349.92
BFA	.00	.00	.00	30.23	386.97	802.73	433.52	.00	.00	.00	1653.47

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = DONKEY OATY #1 IDENT NO. = 109

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	263.1	.0	.0	5.7	.0	.0	.0	.0	.0	.0	.0	.0	83.9	352.7
	BA	68.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	20.0	90.0
	CFA	1464.7	.0	.0	50.5	.0	.0	.0	.0	.0	.0	.0	.0	407.3	1922.5
	BFA	5698.9	.0	.0	203.3	.0	.0	.0	.0	.0	.0	.0	.0	1558.6	7460.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	127.8	3.0	.0	3.7	.0	.0	.0	.0	.0	.0	.0	.0	4.5	139.0
	BA	68.0	2.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	74.0
	CFA	1872.5	56.8	.0	55.2	.0	.0	.0	.0	.0	.0	.0	.0	53.4	2037.9
	BFA	8467.6	268.4	.0	250.7	.0	.0	.0	.0	.0	.0	.0	.0	229.5	9216.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	17.4	.0	.0	5.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	22.5
	BA	14.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	18.0
	CFA	409.5	.0	.0	116.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	526.1
	BFA	1996.9	.0	.0	566.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	2563.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	408.4	3.0	.0	14.5	.0	.0	.0	.0	.0	.0	.0	.0	88.4	514.3
	BA	150.0	2.0	.0	8.0	.0	.0	.0	.0	.0	.0	.0	.0	22.0	182.0
	CFA	3746.7	56.8	.0	222.2	.0	.0	.0	.0	.0	.0	.0	.0	460.8	4486.5
	BFA	16163.5	268.4	.0	1020.9	.0	.0	.0	.0	.0	.0	.0	.0	1788.1	19240.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = DONKEY OATY #1 IDENT NO. = 109

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.21
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	112.05	156.81	101.14	53.71	2.17	.00	.00	.00	425.87
B/A	.00	.00	22.00	48.00	50.00	38.00	2.00	.00	.00	.00	160.00
TOT MORT.	.00	.00	.00	5.73	3.67	8.12	.00	.00	.00	.00	17.52
CUR. ATCK.	.00	.00	.43	2.01	2.08	3.03	.11	.00	.00	.00	7.66
CFA	.00	.00	368.26	1146.92	1359.92	1090.94	59.71	.00	.00	.00	4025.75
BFA	.00	.00	1387.68	4514.57	6034.11	5220.07	296.34	.00	.00	.00	17452.78

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	111.8	.26	148.7	2.39	94.9	2.60	41.1	4.53	2.0	.17	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	111.6	.16	145.9	2.79	91.7	3.15	35.1	5.95	1.8	.24	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	111.5	.10	142.7	3.19	88.1	3.67	28.6	6.52	1.5	.29	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	111.5	.06	139.1	3.57	84.0	4.10	22.8	5.76	1.2	.29	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	111.4	.04	135.2	3.89	79.6	4.34	18.7	4.12	.9	.23	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	111.4	.02	131.1	4.11	75.2	4.36	16.2	2.48	.8	.15	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	111.4	.01	126.9	4.21	71.1	4.14	14.9	1.33	.7	.09	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	111.4	.01	122.8	4.17	67.4	3.72	14.2	.67	.7	.04	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	111.4	.01	118.8	3.99	64.2	3.18	13.9	.33	.6	.02	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	111.4	.00	115.1	3.70	61.6	2.59	13.7	.16	.6	.01	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	111.37	115.06	61.62	13.75	.63	.00	.00	.00	302.43
B/A	.00	.00	21.87	35.22	30.46	9.73	.58	.00	.00	.00	97.86
CFA	.00	.00	368.02	841.60	828.49	279.20	17.45	.00	.00	.00	2332.77
BFA	.00	.00	1379.23	3312.78	3676.10	1335.96	86.62	.00	.00	.00	9790.68

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = DONKEY OATY #5 IDENT NO. = 107

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	30.4	17.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	34.9	82.5
	BA	10.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	10.0	26.0
	CFA	246.6	151.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	229.6	627.6
	BFA	983.4	609.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	906.2	2499.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	90.7	3.0	.0	3.7	.0	.0	.0	.0	4.5	.0	.0	.0	3.7	105.6
	BA	50.0	2.0	.0	2.0	.0	.0	.0	.0	2.0	.0	.0	.0	2.0	58.0
	CFA	1383.3	56.8	.0	55.2	.0	.0	.0	.0	53.4	.0	.0	.0	55.2	1603.8
	BFA	6306.9	268.4	.0	250.7	.0	.0	.0	.0	229.5	.0	.0	.0	250.7	7306.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	42.8	4.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	47.2
	BA	42.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	46.0
	CFA	1271.6	119.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1390.9
	BFA	6358.7	591.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	6949.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	163.9	24.6	.0	3.7	.0	.0	.0	.0	4.5	.0	.0	.0	38.5	235.2
	BA	102.0	12.0	.0	2.0	.0	.0	.0	.0	2.0	.0	.0	.0	12.0	130.0
	CFA	2901.5	327.6	.0	55.2	.0	.0	.0	.0	53.4	.0	.0	.0	284.7	3622.4
	BFA	13649.0	1469.4	.0	250.7	.0	.0	.0	.0	229.5	.0	.0	.0	1156.9	16755.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = DONKEY OATY #5 IDENT NO. = 107

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.68
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	47.59	77.64	47.16	14.29	7.95	1.13	.92	196.69
B/A	.00	.00	.00	16.00	40.00	34.00	14.00	10.00	2.00	2.00	118.00
TOT MORT.	.00	.00	.00	17.19	3.67	5.58	1.87	.00	.00	.00	28.30
CUR. ATCK.	.00	.00	.00	17.19	1.60	5.58	1.87	.72	.17	.14	27.26
CFA	.00	.00	.00	398.08	1094.44	978.91	421.85	312.15	65.28	66.97	3337.67
BFA	.00	.00	.00	1593.33	4908.09	4698.23	2108.15	1596.19	341.16	353.36	15598.52

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	15.4	14.97	72.0	2.00	33.7	7.92	9.7	2.71	5.8	2.16	.9	.28	.8	.13
2	.0	.00	.0	.00	.0	.00	8.6	6.88	69.6	2.41	25.0	8.72	6.8	2.91	2.2	3.57	.5	.32	.7	.10
3	.0	.00	.0	.00	.0	.00	6.5	2.03	66.8	2.81	17.9	7.01	4.6	2.16	.5	1.77	.3	.22	.6	.07
4	.0	.00	.0	.00	.0	.00	6.0	.50	63.6	3.13	13.8	4.18	3.5	1.15	.2	.25	.2	.10	.6	.05
5	.0	.00	.0	.00	.0	.00	5.9	.12	60.3	3.32	11.7	2.01	3.0	.49	.2	.02	.2	.03	.5	.03
6	.0	.00	.0	.00	.0	.00	5.9	.03	57.0	3.33	10.9	.86	2.8	.19	.2	.00	.2	.01	.5	.02
7	.0	.00	.0	.00	.0	.00	5.9	.01	53.8	3.15	10.5	.35	2.7	.07	.2	.00	.2	.00	.5	.01
8	.0	.00	.0	.00	.0	.00	5.9	.00	51.0	2.82	10.4	.14	2.7	.02	.2	.00	.2	.00	.5	.01
9	.0	.00	.0	.00	.0	.00	5.9	.00	48.6	2.40	10.3	.05	2.7	.01	.2	.00	.2	.00	.5	.00
10	.0	.00	.0	.00	.0	.00	5.9	.00	46.6	1.96	10.3	.02	2.7	.00	.2	.00	.2	.00	.5	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	5.87	46.64	10.32	2.71	.19	.17	.50	66.39
B/A	.00	.00	.00	1.97	24.03	7.44	2.65	.23	.31	1.09	37.72
CFA	.00	.00	.00	49.07	657.45	214.12	79.92	7.28	9.99	36.59	1054.41
BFA	.00	.00	.00	196.40	2948.38	1027.64	399.37	37.23	52.21	193.06	4854.31

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/28

FOREST NUMBER = 14 DISTRICT NO. = 1 FOREST NAME = KOOTENAI STAND = DONKEY OATY #23 IDENT NO. = 108

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	23.4	5.7	.0	5.7	.0	.0	.0	.0	.0	.0	.0	.0	10.2	45.0
	BA	6.0	2.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	12.0
	CFA	128.6	50.5	.0	50.5	.0	.0	.0	.0	.0	.0	.0	.0	33.5	263.0
	BFA	499.6	203.3	.0	203.3	.0	.0	.0	.0	.0	.0	.0	.0	126.2	1032.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	10.4	12.8	.0	25.3	.0	.0	7.3	.0	.0	.0	.0	.0	.0	55.7
	BA	6.0	8.0	.0	14.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	32.0
	CFA	167.1	225.5	.0	387.6	.0	.0	110.3	.0	.0	.0	.0	.0	.0	890.5
	BFA	769.9	1056.0	.0	1769.2	.0	.0	501.4	.0	.0	.0	.0	.0	.0	4096.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	5.1	42.5	10.4	20.2	.0	.0	5.1	.0	.0	.0	.0	.0	.0	83.3
	BA	4.0	44.0	12.0	22.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	86.0
	CFA	116.6	1341.9	371.1	676.2	.0	.0	116.6	.0	.0	.0	.0	.0	.0	2622.4
	BFA	566.9	6746.5	1884.1	3417.2	.0	.0	566.9	.0	.0	.0	.0	.0	.0	13181.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	38.9	61.0	10.4	51.2	.0	.0	12.4	.0	.0	.0	.0	.0	10.2	184.1
	BA	16.0	54.0	12.0	38.0	.0	.0	8.0	.0	.0	.0	.0	.0	2.0	130.0
	CFA	412.2	1617.8	371.1	1114.3	.0	.0	226.9	.0	.0	.0	.0	.0	33.5	3775.9
	BFA	1836.3	8005.8	1884.1	5389.7	.0	.0	1068.3	.0	.0	.0	.0	.0	126.2	18310.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 1 FOREST NAME =KOOTENAI STAND = DONKEY OATY #23 IDENT NO. = 108

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.26
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.19	24.67	37.53	46.20	39.81	6.12	8.33	1.02	173.87
B/A	.00	.00	2.00	8.00	20.00	34.00	40.00	8.00	14.00	2.00	128.00
TOT MORT.	.00	.00	.00	11.46	22.86	32.98	39.81	6.12	8.33	1.02	122.58
CUR. ATCK.	.00	.00	.04	5.73	3.67	21.82	22.07	1.63	6.07	.15	61.19
CFA	.00	.00	33.48	196.08	549.79	981.95	1209.76	251.04	454.12	66.15	3742.38
BFA	.00	.00	126.15	780.08	2485.94	4728.25	6061.84	1287.49	2366.97	347.55	18184.27

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	10.2	.02	7.9	5.36	10.7	3.98	1.0	12.23	.0	.00	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	10.1	.01	4.8	3.02	7.6	3.10	.2	.75	.0	.00	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	10.1	.01	3.7	1.16	5.8	1.78	.2	.02	.0	.00	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	10.1	.01	3.3	.37	5.0	.83	.2	.00	.0	.00	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	10.1	.00	3.2	.11	4.6	.34	.2	.00	.0	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	10.1	.00	3.2	.03	4.5	.14	.2	.00	.0	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	10.1	.00	3.2	.01	4.5	.05	.2	.00	.0	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	10.1	.00	3.2	.00	4.4	.02	.2	.00	.0	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	10.1	.00	3.2	.00	4.4	.01	.0	.00	.0	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	10.1	.00	3.2	.00	4.4	.00	.0	.00	.0	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	10.12	3.15	4.42	.21	.00	.00	.00	.00	17.91
B/A	.00	.00	1.99	1.02	2.36	.15	.00	.00	.00	.00	5.52
CFA	.00	.00	33.27	25.07	64.74	4.43	.00	.00	.00	.00	127.52
BFA	.00	.00	125.38	99.73	292.75	21.35	.01	.00	.00	.00	539.21

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LAST FAST 7 IDENT NO. = 112

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	109.4	.0	.0	5.7	.0	.0	.0	.0	20.7	.0	.0	.0	14.7	150.5
	BA	32.0	.0	.0	2.0	.0	.0	.0	.0	6.0	.0	.0	.0	2.0	42.0
	CFA	744.4	.0	.0	50.5	.0	.0	.0	.0	139.7	.0	.0	.0	16.2	950.7
	BFA	2932.8	.0	.0	203.3	.0	.0	.0	.0	543.6	.0	.0	.0	.0	3679.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	241.7	.0	8.2	17.9	.0	.0	.0	.0	4.5	.0	.0	.0	7.6	279.9
	BA	126.0	.0	4.0	10.0	.0	.0	.0	.0	2.0	.0	.0	.0	4.0	146.0
	CFA	3459.3	.0	108.6	277.3	.0	.0	.0	.0	53.4	.0	.0	.0	110.2	4008.9
	BFA	15564.7	.0	480.2	1267.7	.0	.0	.0	.0	229.5	.0	.0	.0	497.9	18040.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	34.2	.0	2.2	.0	.0	.0	2.2	.0	.0	.0	.0	.0	.0	38.6
	BA	30.0	.0	2.0	.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	34.0
	CFA	890.5	.0	59.7	.0	.0	.0	59.7	.0	.0	.0	.0	.0	.0	1010.0
	BFA	4394.3	.0	296.3	.0	.0	.0	296.3	.0	.0	.0	.0	.0	.0	4986.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	385.3	.0	10.4	23.7	.0	.0	2.2	.0	25.2	.0	.0	.0	22.2	468.9
	BA	188.0	.0	6.0	12.0	.0	.0	2.0	.0	8.0	.0	.0	.0	6.0	222.0
	CFA	5094.2	.0	168.3	327.8	.0	.0	59.7	.0	193.1	.0	.0	.0	126.4	5969.5
	BFA	22891.8	.0	776.5	1471.1	.0	.0	296.3	.0	773.0	.0	.0	.0	497.9	26706.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LAST FAST 7 IDENT NO. = 112

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.48
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.37	115.41	214.77	77.95	16.76	1.43	.00	.00	446.70
B/A	.00	.00	4.00	36.00	104.00	54.00	16.00	2.00	.00	.00	216.00
TOT MORT.	.00	.00	.00	5.73	20.06	6.06	2.17	.00	.00	.00	34.02
CUR. ATCK.	.00	.00	.08	1.48	4.42	2.75	.84	.13	.00	.00	9.70
CFA	.00	.00	66.96	867.58	2819.86	1545.16	480.26	63.31	.00	.00	5843.13
BFA	.00	.00	252.31	3427.40	12442.08	7367.44	2393.24	326.26	.00	.00	26208.73

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	20.3	.05	107.9	1.76	189.2	5.52	67.7	4.20	13.3	1.31	1.0	.39	.0	.00	.0	.00
2	.0	.00	.0	.00	20.3	.03	105.9	2.05	182.5	6.66	61.7	5.95	11.5	1.81	.4	.64	.0	.00	.0	.00
3	.0	.00	.0	.00	20.3	.02	103.5	2.35	174.8	7.73	54.2	7.55	9.4	2.10	.1	.32	.0	.00	.0	.00
4	.0	.00	.0	.00	20.3	.01	100.9	2.62	166.3	8.56	45.9	8.25	7.4	1.97	.0	.04	.0	.00	.0	.00
5	.0	.00	.0	.00	20.3	.01	98.0	2.85	157.3	8.99	38.3	7.59	5.9	1.46	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	20.3	.00	95.0	3.01	148.3	8.92	32.5	5.87	5.0	.90	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	20.3	.00	92.0	3.08	140.0	8.35	28.5	3.92	4.6	.48	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	20.2	.00	88.9	3.04	132.6	7.39	26.2	2.35	4.3	.24	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	20.2	.00	86.0	2.91	126.4	6.22	24.9	1.31	4.2	.11	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	20.2	.00	83.3	2.69	121.4	5.00	24.2	.71	4.2	.05	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.25	83.33	121.39	24.18	4.15	.03	.00	.00	253.33
B/A	.00	.00	3.98	25.99	58.78	16.75	3.96	.05	.00	.00	109.51
CFA	.00	.00	66.55	626.39	1593.77	479.33	118.99	1.48	.00	.00	2886.51
BFA	.00	.00	250.77	2474.57	7032.20	2285.50	592.93	7.61	.00	.00	12643.59

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LAST FAST 10 IDENT NO. = 903

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
0- 4.9	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	140.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	55.7	196.4
	BA	38.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.0	50.0
5- 8.9	CFA	844.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	223.1	1067.2
	BFA	3288.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	844.9	4133.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	177.8	.0	.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	180.8
	BA	94.0	.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	96.0
9-11.9	CFA	2584.4	.0	.0	56.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	2641.2
	BFA	11666.7	.0	.0	268.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	11935.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	30.9	1.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	32.8
	BA	26.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	28.0
12 +	CFA	766.2	61.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	827.2
	BFA	3760.4	307.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	4068.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	TA	349.5	1.9	.0	3.0	.0	.0	.0	.0	.0	.0	.0	.0	55.7	410.1
	BA	158.0	2.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	12.0	174.0
TOTALS	CFA	4194.8	61.0	.0	56.8	.0	.0	.0	.0	.0	.0	.0	.0	223.1	4535.6
	BFA	18716.0	307.6	.0	268.4	.0	.0	.0	.0	.0	.0	.0	.0	844.9	20136.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LAST FAST 10 IDENT NO. = 903

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.10
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	40.74	99.98	150.53	50.68	12.42	.00	.00	.00	354.35
B/A	.00	.00	8.00	30.00	76.00	36.00	12.00	.00	.00	.00	162.00
TOT MORT.	.00	.00	.00	.00	.00	3.03	1.87	.00	.00	.00	4.90
CUR. ATCK.	.00	.00	.15	1.28	3.10	1.79	1.87	.00	.00	.00	8.20
CFA	.00	.00	133.91	710.17	2073.44	1034.16	360.85	.00	.00	.00	4312.54
BFA	.00	.00	504.61	2784.28	9250.94	4951.65	1800.56	.00	.00	.00	19292.04

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	40.6	.10	98.5	1.52	146.7	3.87	44.9	2.73	7.9	2.65	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	40.6	.06	96.7	1.78	142.0	4.69	41.0	3.88	5.2	2.66	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	40.6	.04	94.6	2.04	136.5	5.49	36.1	4.94	3.5	1.77	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	40.5	.02	92.3	2.29	130.3	6.15	30.7	5.43	2.6	.83	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	40.5	.01	89.8	2.50	123.8	6.57	25.6	5.04	2.3	.32	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	40.5	.01	87.2	2.65	117.1	6.64	21.7	3.93	2.2	.11	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	40.5	.01	84.5	2.73	110.8	6.36	19.1	2.64	2.2	.04	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	40.5	.00	81.7	2.72	105.0	5.76	17.5	1.59	2.2	.01	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	40.5	.00	79.1	2.62	100.0	4.96	16.6	.89	2.2	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	40.5	.00	76.7	2.45	96.0	4.08	16.1	.48	2.2	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	40.50	76.66	95.95	16.08	2.15	.00	.00	.00	231.35
B/A	.00	.00	7.95	23.00	48.45	11.43	2.08	.00	.00	.00	92.90
CFA	.00	.00	133.10	544.55	1321.70	328.21	62.49	.00	.00	.00	2390.05
BFA	.00	.00	501.54	2134.94	5896.95	1571.50	311.80	.00	.00	.00	10416.72

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LIMEAID 12 IDENT NO. = 901

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	99.4	.0	18.9	5.7	.0	.0	15.0	.0	.0	.0	.0	.0	52.7	191.7
	BA	26.0	.0	6.0	2.0	.0	.0	4.0	.0	.0	.0	.0	.0	10.0	48.0
	CFA	564.5	.0	145.6	50.5	.0	.0	89.2	.0	.0	.0	.0	.0	161.2	1010.9
	BFA	2152.7	.0	576.8	203.3	.0	.0	340.3	.0	.0	.0	.0	.0	548.6	3821.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	81.3	.0	12.7	3.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	97.7
	BA	40.0	.0	6.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	48.0
	CFA	1087.5	.0	162.0	55.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	1304.7
	BFA	4819.5	.0	709.6	250.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	5779.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	11.0	.0	2.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	13.2
	BA	10.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.0
	CFA	298.3	.0	59.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	358.0
	BFA	1478.4	.0	296.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1774.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	191.7	.0	33.8	9.4	.0	.0	15.0	.0	.0	.0	.0	.0	52.7	302.6
	BA	76.0	.0	14.0	4.0	.0	.0	4.0	.0	.0	.0	.0	.0	10.0	108.0
	CFA	1950.3	.0	367.3	105.6	.0	.0	89.2	.0	.0	.0	.0	.0	161.2	2673.6
	BFA	8450.6	.0	1582.7	454.0	.0	.0	340.3	.0	.0	.0	.0	.0	548.6	11376.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LIMEAID 12 IDENT NO. = 901

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.43
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	35.04	103.95	94.66	8.12	8.08	.00	.00	.00	249.86
B/A	.00	.00	6.00	32.00	46.00	6.00	8.00	.00	.00	.00	98.00
TOT MORT.	.00	.00	.00	24.67	16.39	.00	2.17	.00	.00	.00	43.23
CUR. ATCK.	.00	.00	.13	1.33	1.95	.29	.40	.00	.00	.00	4.10
CFA	.00	.00	83.13	766.58	1247.90	173.37	241.43	.00	.00	.00	2512.42
BFA	.00	.00	252.31	3020.77	5511.42	835.28	1207.87	.00	.00	.00	10827.65

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	35.0	.08	77.7	1.58	75.8	2.43	7.7	.44	5.3	.62	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	34.9	.05	75.9	1.83	72.9	2.92	7.1	.63	4.4	.84	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	34.9	.03	73.8	2.07	69.6	3.36	6.3	.81	3.5	.92	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	34.9	.02	71.5	2.28	65.9	3.67	5.3	.91	2.7	.79	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	34.8	.01	69.1	2.42	62.1	3.80	4.5	.86	2.2	.54	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	34.8	.01	66.6	2.49	58.4	3.70	3.8	.69	1.9	.30	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	34.8	.00	64.2	2.46	55.0	3.39	3.3	.47	1.7	.15	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	34.8	.00	61.8	2.34	52.1	2.93	3.0	.29	1.7	.07	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	34.8	.00	59.7	2.15	49.7	2.41	2.9	.17	1.6	.03	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	34.8	.00	57.8	1.91	47.8	1.90	2.8	.09	1.6	.01	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	34.83	57.76	47.78	2.77	1.62	.00	.00	.00	144.76
B/A	.00	.00	5.96	17.78	23.22	2.05	1.61	.00	.00	.00	50.61
CFA	.00	.00	82.62	425.91	629.87	59.18	48.47	.00	.00	.00	1246.06
BFA	.00	.00	250.77	1678.33	2781.85	285.13	242.49	.00	.00	.00	5238.56

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LIMEAID 13 IDENT NO. = 902

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	191.5	.0	5.7	7.5	26.4	5.7	.0	7.5	.0	.0	.0	.0	13.2	257.6
	BA	52.0	.0	2.0	2.0	8.0	2.0	.0	2.0	.0	.0	.0	.0	4.0	72.0
	CFA	1157.6	.0	50.5	44.6	190.2	50.5	.0	44.6	.0	.0	.0	.0	95.1	1633.0
	BFA	4524.6	.0	203.3	170.1	746.9	203.3	.0	170.1	.0	.0	.0	.0	373.4	6391.8
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	110.7	38.2	10.4	7.3	20.9	3.7	3.0	.0	.0	.0	.0	.0	.0	194.2
	BA	56.0	22.0	6.0	4.0	10.0	2.0	2.0	.0	.0	.0	.0	.0	.0	102.0
	CFA	1530.1	613.0	167.1	110.3	270.6	55.2	56.8	.0	.0	.0	.0	.0	.0	2803.0
	BFA	6832.3	2821.6	769.9	501.4	1189.8	250.7	268.4	.0	.0	.0	.0	.0	.0	12634.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	4.3	19.7	9.5	3.8	7.3	.0	.0	.0	.0	.0	.0	.0	.0	44.6
	BA	4.0	16.0	8.0	4.0	6.0	.0	.0	.0	.0	.0	.0	.0	.0	38.0
	CFA	119.4	469.1	235.9	121.9	176.3	.0	.0	.0	.0	.0	.0	.0	.0	1122.6
	BFA	592.7	2291.6	1157.9	613.8	863.2	.0	.0	.0	.0	.0	.0	.0	.0	5519.2
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	306.5	57.9	25.6	18.6	54.6	9.4	3.0	7.5	.0	.0	.0	.0	13.2	496.4
	BA	112.0	38.0	16.0	10.0	24.0	4.0	2.0	2.0	.0	.0	.0	.0	4.0	212.0
	CFA	2807.1	1082.1	453.5	276.8	637.1	105.6	56.8	44.6	.0	.0	.0	.0	95.1	5558.7
	BFA	11949.5	5113.2	2131.1	1285.4	2799.9	454.0	268.4	170.1	.0	.0	.0	.0	373.4	24545.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LIMEAID 13 IDENT NO. = 902

HABITAT TYPE *** AVERAGE LPP DBH 5+ 8.35
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	61.12	183.23	154.83	69.96	12.42	1.63	.00	.00	483.19
B/A	.00	.00	12.00	56.00	76.00	50.00	12.00	2.00	.00	.00	208.00
TOT MORT.	.00	.00	.00	13.21	34.72	46.68	5.91	1.63	.00	.00	102.16
CUR. ATCK.	.00	.00	.23	2.35	20.06	36.01	1.87	.15	.00	.00	60.66
CFA	.00	.00	200.87	1337.09	2064.88	1437.69	360.85	62.21	.00	.00	5463.58
BFA	.00	.00	756.92	5261.47	9144.63	6890.63	1800.56	317.48	.00	.00	24171.69

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	61.0	.14	167.2	2.79	97.2	22.87	2.0	21.24	4.1	2.44	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	60.9	.09	164.0	3.26	76.4	20.81	.5	1.55	2.2	1.86	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	60.8	.05	160.3	3.72	61.4	15.04	.4	.05	1.4	.82	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	60.8	.03	156.1	4.15	52.4	8.99	.4	.00	1.1	.26	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	60.8	.02	151.6	4.50	47.7	4.73	.4	.00	1.1	.07	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	60.8	.01	146.9	4.74	45.3	2.32	.4	.00	1.0	.02	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	60.8	.01	142.0	4.82	44.3	1.09	.4	.00	1.0	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	60.7	.00	137.3	4.75	43.7	.51	.4	.00	1.0	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	60.7	.00	132.8	4.52	43.5	.23	.0	.00	1.0	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	60.7	.00	128.6	4.17	43.4	.11	.0	.00	1.0	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	60.75	128.60	43.41	.43	1.03	.00	.00	.00	234.21
B/A	.00	.00	11.93	39.30	21.31	.31	.99	.00	.00	.00	73.84
CFA	.00	.00	199.65	938.39	578.91	8.94	29.88	.00	.00	.00	1755.76
BFA	.00	.00	752.31	3692.61	2563.79	42.83	149.07	.00	.00	.00	7200.60

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = N. TURNER #1 IDENT NO. = 102

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	5.7	.0	.0	11.5	.0	.0	.0	.0	5.7	.0	.0	.0	.0	17.2
	BA	2.0	.0	.0	4.0	.0	.0	.0	.0	2.0	.0	.0	.0	.0	6.0
	CFA	50.5	.0	.0	101.0	.0	.0	.0	.0	50.5	.0	.0	.0	.0	151.5
	BFA	203.3	.0	.0	406.6	.0	.0	.0	.0	203.3	.0	.0	.0	.0	609.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	22.4	.0	.0	35.2	.0	.0	11.9	.0	.0	.0	.0	.0	.0	69.5
	BA	12.0	.0	.0	20.0	.0	.0	6.0	.0	.0	.0	.0	.0	.0	38.0
	CFA	330.7	.0	.0	556.2	.0	.0	163.7	.0	.0	.0	.0	.0	.0	1050.7
	BFA	1497.2	.0	.0	2553.2	.0	.0	730.9	.0	.0	.0	.0	.0	.0	4781.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	11.9	.0	.0	47.4	.0	.0	3.6	.0	.0	.0	.0	.0	.0	62.9
	BA	12.0	.0	.0	46.0	.0	.0	4.0	.0	.0	.0	.0	.0	.0	62.0
	CFA	364.8	.0	.0	1388.4	.0	.0	123.0	.0	.0	.0	.0	.0	.0	1876.2
	BFA	1829.4	.0	.0	6933.4	.0	.0	622.6	.0	.0	.0	.0	.0	.0	9385.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	40.1	.0	.0	94.0	.0	.0	15.5	.0	5.7	.0	.0	.0	.0	149.6
	BA	26.0	.0	.0	70.0	.0	.0	10.0	.0	2.0	.0	.0	.0	.0	106.0
	CFA	746.0	.0	.0	2045.6	.0	.0	286.8	.0	50.5	.0	.0	.0	.0	3078.4
	BFA	3530.0	.0	.0	9893.3	.0	.0	1353.5	.0	203.3	.0	.0	.0	.0	14776.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = N. TURNER #1 IDENT NO. = 102

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.90
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	17.19	48.31	44.13	30.16	7.75	1.13	.92	149.59
B/A	.00	.00	.00	6.00	24.00	32.00	30.00	10.00	2.00	2.00	106.00
TOT MORT.	.00	.00	.00	11.46	20.06	32.98	23.95	4.69	.00	.92	94.05
CUR. ATCK.	.00	.00	.00	.22	1.00	1.56	1.51	.70	.17	.14	5.29
CFA	.00	.00	.00	151.50	653.24	922.13	906.02	313.25	65.28	66.97	3078.38
BFA	.00	.00	.00	609.94	2902.33	4429.82	4535.13	1604.97	341.16	353.36	14776.71

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	5.5	.26	27.0	1.23	9.0	2.20	4.2	2.03	1.4	1.69	.9	.28	.0	.00
2	.0	.00	.0	.00	.0	.00	5.2	.29	25.6	1.45	6.6	2.39	2.4	1.73	.2	1.18	.5	.32	.0	.00
3	.0	.00	.0	.00	.0	.00	4.9	.30	24.0	1.61	4.7	1.88	1.6	.89	.1	.15	.3	.22	.0	.00
4	.0	.00	.0	.00	.0	.00	4.6	.30	22.3	1.66	3.6	1.09	1.2	.33	.0	.01	.2	.10	.0	.00
5	.0	.00	.0	.00	.0	.00	4.3	.28	20.7	1.60	3.1	.51	1.1	.10	.0	.00	.2	.03	.0	.00
6	.0	.00	.0	.00	.0	.00	4.1	.24	19.3	1.43	2.9	.21	1.1	.03	.0	.00	.2	.01	.0	.00
7	.0	.00	.0	.00	.0	.00	3.9	.20	18.1	1.20	2.8	.09	1.1	.01	.0	.00	.2	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	3.7	.16	17.1	.94	2.7	.03	1.1	.00	.0	.00	.2	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	3.6	.12	16.4	.71	2.7	.01	1.1	.00	.0	.00	.2	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	3.5	.09	15.9	.51	2.7	.00	1.1	.00	.0	.00	.2	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	3.49	15.91	2.73	1.08	.04	.17	.00	23.43
B/A	.00	.00	.00	1.22	7.91	1.98	1.08	.05	.31	.00	12.54
CFA	.00	.00	.00	30.75	215.20	56.98	32.58	1.72	9.99	.00	347.22
BFA	.00	.00	.00	123.79	956.13	273.75	163.10	8.80	52.21	.00	1577.77

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = N. TURNER #3 IDENT NO. = 103

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	13.2	.0	.0	33.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	47.1
	BA	4.0	.0	.0	10.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	14.0
	CFA	95.1	.0	.0	234.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	329.8
	BFA	373.4	.0	.0	917.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	1290.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	11.2	11.2	.0	73.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	96.3
	BA	6.0	6.0	.0	40.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	52.0
	CFA	165.4	165.4	.0	1104.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	1434.9
	BFA	748.6	748.6	.0	5014.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	6511.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	.9	.0	.0	58.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	58.9
	BA	2.0	.0	.0	54.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	56.0
	CFA	67.0	.0	.0	1619.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	1686.5
	BFA	353.4	.0	.0	8050.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	8403.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	25.4	11.2	.0	165.7	.0	.0	.0	.0	.0	.0	.0	.0	.0	202.3
	BA	12.0	6.0	.0	104.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	122.0
	CFA	327.4	165.4	.0	2958.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	3451.3
	BFA	1475.4	748.6	.0	13981.6	.0	.0	.0	.0	.0	.0	.0	.0	.0	16205.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = N. TURNER #3 IDENT NO. = 103

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.32
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	47.12	72.03	54.80	20.20	4.69	2.54	.92	202.31
B/A	.00	.00	.00	14.00	36.00	40.00	20.00	6.00	4.00	2.00	122.00
TOT MORT.	.00	.00	.00	33.91	63.83	51.77	20.20	4.69	2.54	.00	176.95
CUR. ATCK.	.00	.00	.00	.60	8.19	3.03	1.01	.42	.38	.14	13.78
CFA	.00	.00	.00	329.84	980.72	1153.80	603.58	187.73	128.67	66.97	3451.30
BFA	.00	.00	.00	1290.49	4364.13	5548.53	3019.67	961.23	668.21	353.36	16205.61

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	12.5	.70	2.3	5.88	.6	2.40	.0	.00	.0	.00	.0	.00	.8	.13
2	.0	.00	.0	.00	.0	.00	11.7	.77	.9	1.38	.2	.45	.0	.00	.0	.00	.0	.00	.7	.10
3	.0	.00	.0	.00	.0	.00	10.9	.80	.8	.18	.1	.04	.0	.00	.0	.00	.0	.00	.6	.07
4	.0	.00	.0	.00	.0	.00	10.2	.76	.7	.02	.1	.00	.0	.00	.0	.00	.0	.00	.6	.05
5	.0	.00	.0	.00	.0	.00	9.5	.68	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.03
6	.0	.00	.0	.00	.0	.00	8.9	.57	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.02
7	.0	.00	.0	.00	.0	.00	8.5	.45	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.01
8	.0	.00	.0	.00	.0	.00	8.1	.34	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.01
9	.0	.00	.0	.00	.0	.00	7.9	.25	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.00
10	.0	.00	.0	.00	.0	.00	7.7	.17	.7	.00	.1	.00	.0	.00	.0	.00	.0	.00	.5	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	7.72	.73	.14	.00	.00	.00	.50	9.09
B/A	.00	.00	.00	2.29	.37	.10	.00	.00	.00	1.09	3.85
CFA	.00	.00	.00	54.06	9.95	2.94	.00	.00	.00	36.59	103.54
BFA	.00	.00	.00	211.49	44.29	14.16	.00	.00	.00	193.06	463.01

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = PORK BASIN 2 IDENT NO. = 104

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	20.7	.0	.0	11.5	5.7	.0	.0	.0	.0	.0	.0	.0	26.1	64.0
	BA	6.0	.0	.0	4.0	2.0	.0	.0	.0	.0	.0	.0	.0	6.0	18.0
	CFA	139.7	.0	.0	101.0	50.5	.0	.0	.0	.0	.0	.0	.0	117.5	408.6
	BFA	543.6	.0	.0	406.6	203.3	.0	.0	.0	.0	.0	.0	.0	455.6	1609.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	30.9	7.6	21.6	19.4	4.5	3.0	.0	.0	.0	.0	.0	.0	9.1	96.0
	BA	16.0	4.0	12.0	10.0	2.0	2.0	.0	.0	.0	.0	.0	.0	4.0	50.0
	CFA	439.2	110.2	332.4	274.0	53.4	56.8	.0	.0	.0	.0	.0	.0	106.9	1372.9
	BFA	1973.8	497.9	1518.5	1228.8	229.5	268.4	.0	.0	.0	.0	.0	.0	458.9	6175.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	5.5	.0	16.0	33.2	2.5	.0	.0	.0	.0	.0	.0	.0	.0	57.3
	BA	6.0	.0	14.0	30.0	2.0	.0	.0	.0	.0	.0	.0	.0	.0	52.0
	CFA	184.0	.0	415.0	893.8	58.3	.0	.0	.0	.0	.0	.0	.0	.0	1551.1
	BFA	930.2	.0	2046.9	4425.6	283.4	.0	.0	.0	.0	.0	.0	.0	.0	7686.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	57.0	7.6	37.6	64.1	12.8	3.0	.0	.0	.0	.0	.0	.0	35.2	217.3
	BA	28.0	4.0	26.0	44.0	6.0	2.0	.0	.0	.0	.0	.0	.0	10.0	120.0
	CFA	762.9	110.2	747.5	1268.7	162.2	56.8	.0	.0	.0	.0	.0	.0	224.3	3332.7
	BFA	3447.6	497.9	3565.4	6061.0	716.2	268.4	.0	.0	.0	.0	.0	.0	914.5	15471.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = PORK BASIN 2 IDENT NO. = 104

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.52
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	37.89	62.75	47.16	32.92	1.43	.00	.00	182.15
B/A	.00	.00	.00	12.00	30.00	34.00	32.00	2.00	.00	.00	110.00
TOT MORT.	.00	.00	.00	11.46	36.44	32.49	28.88	.00	.00	.00	109.28
CUR. ATCK.	.00	.00	.00	.48	4.53	3.03	1.65	.13	.00	.00	9.82
CFA	.00	.00	.00	291.17	811.84	978.91	963.12	63.31	.00	.00	3108.35
BFA	.00	.00	.00	1153.53	3569.45	4698.24	4808.98	326.26	.00	.00	14556.46

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	25.9	.58	21.2	5.15	10.6	4.07	2.1	1.96	1.0	.39	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	25.2	.67	16.5	4.64	6.8	3.75	.9	1.14	.4	.64	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	24.4	.75	13.2	3.30	4.6	2.27	.6	.35	.1	.32	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	23.6	.82	11.3	1.94	3.6	.99	.5	.08	.0	.04	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	22.8	.86	10.3	1.00	3.2	.36	.5	.02	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	21.9	.87	9.8	.48	3.1	.12	.5	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	21.0	.85	9.6	.23	3.1	.04	.5	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	20.3	.79	9.5	.10	3.0	.01	.5	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	19.5	.72	9.4	.05	3.0	.00	.5	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	18.9	.62	9.4	.02	3.0	.00	.5	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	18.91	9.39	3.04	.50	.03	.00	.00	31.88
B/A	.00	.00	.00	5.99	4.49	2.19	.48	.05	.00	.00	13.20
CFA	.00	.00	.00	145.34	121.52	63.17	14.49	1.48	.00	.00	345.99
BFA	.00	.00	.00	575.80	534.28	303.18	72.33	7.61	.00	.00	1493.20

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = PORK BASIN 7 IDENT NO. = 103

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	26.1	.0	.0	.0	.0	.0	.0	.0	13.2	.0	.0	.0	.0	39.3
	BA	6.0	.0	.0	.0	.0	.0	.0	.0	4.0	.0	.0	.0	.0	10.0
	CFA	117.2	.0	.0	.0	.0	.0	.0	.0	95.1	.0	.0	.0	.0	212.3
	BFA	406.6	.0	.0	.0	.0	.0	.0	.0	373.4	.0	.0	.0	.0	780.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	56.1	3.7	.0	13.6	.0	.0	.0	.0	4.5	.0	.0	.0	.0	77.9
	BA	30.0	2.0	.0	8.0	.0	.0	.0	.0	2.0	.0	.0	.0	.0	42.0
	CFA	826.8	55.2	.0	223.8	.0	.0	.0	.0	53.4	.0	.0	.0	.0	1159.2
	BFA	3743.0	250.7	.0	1034.7	.0	.0	.0	.0	229.5	.0	.0	.0	.0	5257.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	19.8	5.8	6.9	23.5	.0	2.2	.0	.0	.0	.0	.0	.0	.0	58.1
	BA	18.0	6.0	6.0	24.0	.0	2.0	.0	.0	.0	.0	.0	.0	.0	56.0
	CFA	537.0	182.7	177.7	729.6	.0	59.7	.0	.0	.0	.0	.0	.0	.0	1686.8
	BFA	2662.1	918.4	876.1	3663.1	.0	296.3	.0	.0	.0	.0	.0	.0	.0	8416.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	102.0	9.5	6.9	37.1	.0	2.2	.0	.0	17.7	.0	.0	.0	.0	175.4
	BA	54.0	8.0	6.0	32.0	.0	2.0	.0	.0	6.0	.0	.0	.0	.0	108.0
	CFA	1481.0	237.9	177.7	953.3	.0	59.7	.0	.0	148.5	.0	.0	.0	.0	3058.2
	BFA	6811.7	1169.1	876.1	4697.9	.0	296.3	.0	.0	602.9	.0	.0	.0	.0	14454.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = PORK BASIN 7 IDENT NO. = 103

HABITAT TYPE *** AVERAGE LPP DBH 5+ 9.93
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	14.67	24.67	53.69	44.62	26.71	11.01	.00	.00	175.38
B/A	.00	.00	2.00	8.00	26.00	32.00	26.00	14.00	.00	.00	108.00
TOT MORT.	.00	.00	.00	.00	8.19	21.82	12.42	11.01	.00	.00	53.45
CUR. ATCK.	.00	.00	.06	.32	3.67	2.55	1.34	3.26	.00	.00	11.18
CFA	.00	.00	16.17	196.08	704.97	920.61	782.70	437.67	.00	.00	3058.19
BFA	.00	.00	.00	780.08	3110.53	4414.80	3908.70	2239.94	.00	.00	14454.05

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	14.6	.03	24.3	.38	41.1	4.41	19.1	3.68	12.3	2.02	.0	.00	.0	.00	.0	.00
2	.0	.00	.0	.00	14.6	.02	23.9	.44	36.3	4.74	14.8	4.29	9.7	2.53	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	14.6	.01	23.4	.50	31.9	4.49	11.0	3.80	7.3	2.45	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	14.6	.01	22.8	.57	28.1	3.74	8.5	2.55	5.5	1.78	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	14.6	.00	22.2	.62	25.4	2.77	7.1	1.37	4.5	1.01	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	14.6	.00	21.5	.65	23.5	1.88	6.5	.64	4.0	.49	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	14.6	.00	20.8	.67	22.3	1.20	6.2	.28	3.8	.22	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	14.6	.00	20.2	.67	21.5	.73	6.1	.12	3.7	.09	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	14.6	.00	19.5	.65	21.1	.43	6.0	.05	3.7	.04	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	14.6	.00	18.9	.60	20.9	.25	6.0	.02	3.6	.02	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	14.58	18.92	20.86	6.00	3.63	.00	.00	.00	64.00
B/A	.00	.00	1.99	6.13	10.10	4.31	3.54	.00	.00	.00	26.07
CFA	.00	.00	16.07	150.35	273.89	123.88	106.50	.00	.00	.00	670.70
BFA	.00	.00	.00	598.15	1208.50	594.06	531.87	.00	.00	.00	2932.57

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/26

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LOWER BASIN 3 IDENT NO. = 102

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	7.5	.0	5.7	11.5	.0	.0	.0	.0	.0	.0	.0	.0	23.4	48.1
	BA	2.0	.0	2.0	4.0	.0	.0	.0	.0	.0	.0	.0	.0	6.0	14.0
	CFA	44.6	.0	50.5	101.0	.0	.0	.0	.0	.0	.0	.0	.0	128.6	324.6
	BFA	170.1	.0	203.3	406.6	.0	.0	.0	.0	.0	.0	.0	.0	499.6	1279.7
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	29.6	3.0	3.7	31.5	3.0	.0	.0	.0	3.7	.0	.0	.0	7.3	81.8
	BA	16.0	2.0	2.0	18.0	2.0	.0	.0	.0	2.0	.0	.0	.0	4.0	46.0
	CFA	441.1	56.8	55.2	501.1	56.8	.0	.0	.0	55.2	.0	.0	.0	110.3	1276.3
	BFA	2002.2	268.4	250.7	2302.5	268.4	.0	.0	.0	250.7	.0	.0	.0	501.4	5844.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	21.6	38.5	4.0	24.8	5.1	.0	2.2	.0	2.5	.0	.0	.0	.0	98.7
	BA	20.0	42.0	4.0	26.0	4.0	.0	2.0	.0	2.0	.0	.0	.0	.0	100.0
	CFA	598.1	1288.0	121.6	793.6	116.6	.0	59.7	.0	58.3	.0	.0	.0	.0	3035.9
	BFA	2970.0	6508.2	609.7	3994.4	566.9	.0	296.3	.0	283.4	.0	.0	.0	.0	15228.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	58.7	41.5	13.4	67.8	8.1	.0	2.2	.0	6.2	.0	.0	.0	30.7	228.6
	BA	38.0	44.0	8.0	48.0	6.0	.0	2.0	.0	4.0	.0	.0	.0	10.0	160.0
	CFA	1083.8	1344.8	227.3	1395.7	173.4	.0	59.7	.0	113.4	.0	.0	.0	238.9	4636.9
	BFA	5142.3	6776.6	1063.7	6703.5	835.3	.0	296.3	.0	534.1	.0	.0	.0	1001.0	22353.0
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LOWER BASIN 3 IDENT NO. = 102

HABITAT TYPE *** AVERAGE LPP DBH 5+ 11.06
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	24.67	50.25	49.71	51.26	18.18	3.81	.00	197.88
B/A	.00	.00	.00	8.00	26.00	36.00	50.00	24.00	6.00	.00	150.00
TOT MORT.	.00	.00	.00	17.19	20.06	30.92	34.20	16.55	3.81	.00	122.71
CUR. ATCK.	.00	.00	.00	.32	1.04	8.12	21.48	10.62	1.27	.00	42.84
CFA	.00	.00	.00	196.08	711.81	1037.20	1505.70	754.24	193.01	.00	4398.04
BFA	.00	.00	.00	780.08	3195.58	4981.67	7521.06	3871.24	1002.32	.00	21351.93

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	7.1	.37	28.9	1.28	9.5	9.28	2.2	14.88	.0	1.63	.0	.00	.0	.00
2	.0	.00	.0	.00	.0	.00	6.7	.41	27.4	1.51	4.4	5.14	.5	1.66	.0	.00	.0	.00	.0	.00
3	.0	.00	.0	.00	.0	.00	6.3	.42	25.7	1.68	2.8	1.53	.4	.08	.0	.00	.0	.00	.0	.00
4	.0	.00	.0	.00	.0	.00	5.9	.41	24.0	1.75	2.5	.34	.4	.00	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	.0	.00	5.5	.38	22.3	1.69	2.4	.07	.4	.00	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	.0	.00	5.2	.32	20.8	1.53	2.4	.01	.4	.00	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	.0	.00	4.9	.26	19.5	1.28	2.4	.00	.4	.00	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	.0	.00	4.7	.20	18.5	1.02	2.4	.00	.4	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	.0	.00	4.6	.15	17.7	.77	2.4	.00	.4	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	.0	.00	4.5	.11	17.1	.56	2.4	.00	.0	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	4.46	17.12	2.41	.44	.00	.00	.00	24.43
B/A	.00	.00	.00	1.45	8.86	1.75	.43	.00	.00	.00	12.48
CFA	.00	.00	.00	35.42	242.48	50.35	13.05	.00	.00	.00	341.30
BFA	.00	.00	.00	140.91	1088.57	241.83	65.18	.00	.00	.00	1536.49

BARK BEETLE SURVEY 0/ 4/26
---SPECIES LP ---

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LOWER BASIN 10 IDENT NO. = 101

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	15.8	.0	.0	.0	.0	.0	.0	.0	17.0	.0	.0	.0	4.8	37.5
	BA	5.0	.0	.0	.0	.0	.0	.0	.0	3.3	.0	.0	.0	1.7	10.0
	CFA	121.3	.0	.0	.0	.0	.0	.0	.0	55.8	.0	.0	.0	42.1	219.2
	BFA	480.6	.0	.0	.0	.0	.0	.0	.0	210.3	.0	.0	.0	169.4	860.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	53.3	12.4	.0	14.2	2.5	.0	.0	.0	2.5	.0	.0	.0	6.3	91.3
	BA	30.0	6.7	.0	8.3	1.7	.0	.0	.0	1.7	.0	.0	.0	3.3	51.7
	CFA	833.7	183.8	.0	232.5	47.3	.0	.0	.0	47.3	.0	.0	.0	91.8	1436.4
	BFA	3819.7	832.8	.0	1074.2	223.7	.0	.0	.0	223.7	.0	.0	.0	414.9	6588.9
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	38.4	7.7	1.2	15.2	2.1	.0	.0	.0	.0	.0	.0	.0	.0	64.6
	BA	35.0	10.0	1.7	16.7	1.7	.0	.0	.0	.0	.0	.0	.0	.0	65.0
	CFA	1046.7	313.7	52.8	513.8	48.6	.0	.0	.0	.0	.0	.0	.0	.0	1975.5
	BFA	5190.4	1607.7	271.9	2598.2	236.2	.0	.0	.0	.0	.0	.0	.0	.0	9904.3
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	107.4	20.1	1.2	29.4	4.6	.0	.0	.0	19.5	.0	.0	.0	11.1	193.4
	BA	70.0	16.7	1.7	25.0	3.3	.0	.0	.0	5.0	.0	.0	.0	5.0	126.7
	CFA	2001.7	497.4	52.8	746.3	95.9	.0	.0	.0	103.1	.0	.0	.0	133.9	3631.2
	BFA	9490.7	2440.4	271.9	3672.3	459.9	.0	.0	.0	433.9	.0	.0	.0	584.3	17353.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LOWER BASIN 10 IDENT NO. = 101

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.95
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	16.98	15.79	47.08	67.59	19.95	10.37	3.06	1.53	182.35
B/A	.00	.00	3.33	5.00	23.33	48.33	20.00	13.33	5.00	3.33	121.67
TOT MORT.	.00	.00	.00	.00	19.05	13.94	4.93	9.01	3.06	.76	50.76
CUR. ATCK.	.00	.00	.06	.20	9.88	2.53	1.56	5.10	1.06	.23	20.63
CFA	.00	.00	55.80	121.32	634.86	1389.87	604.66	417.48	161.63	111.61	3497.22
BFA	.00	.00	210.25	480.64	2818.76	6661.94	3029.04	2138.50	841.15	588.93	16769.20

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	16.9	.04	15.5	.24	17.9	10.09	49.8	3.83	12.7	2.34	.0	1.36	.0	.00	.6	.20
2	.0	.00	.0	.00	16.9	.02	15.3	.28	11.4	6.56	44.5	5.30	9.8	2.85	.0	.00	.0	.00	.4	.13
3	.0	.00	.0	.00	16.9	.02	14.9	.32	8.5	2.92	38.1	6.41	7.2	2.62	.0	.00	.0	.00	.4	.07
4	.0	.00	.0	.00	16.9	.01	14.6	.36	7.4	1.04	31.6	6.53	5.4	1.79	.0	.00	.0	.00	.3	.03
5	.0	.00	.0	.00	16.9	.01	14.2	.39	7.1	.34	26.1	5.51	4.5	.96	.0	.00	.0	.00	.3	.01
6	.0	.00	.0	.00	16.9	.00	13.8	.42	7.0	.11	22.2	3.89	4.0	.44	.0	.00	.0	.00	.3	.01
7	.0	.00	.0	.00	16.9	.00	13.3	.43	6.9	.03	19.8	2.39	3.8	.19	.0	.00	.0	.00	.3	.00
8	.0	.00	.0	.00	16.9	.00	12.9	.43	6.9	.01	18.4	1.34	3.8	.08	.0	.00	.0	.00	.3	.00
9	.0	.00	.0	.00	16.9	.00	12.5	.41	6.9	.00	17.7	.71	3.7	.03	.0	.00	.0	.00	.3	.00
10	.0	.00	.0	.00	16.9	.00	12.1	.39	6.9	.00	17.4	.37	3.7	.01	.0	.00	.0	.00	.3	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	16.87	12.10	6.92	17.36	3.71	.00	.00	.31	57.29
B/A	.00	.00	3.31	3.83	3.43	12.42	3.72	.00	.00	.68	27.40
CFA	.00	.00	55.46	93.02	93.36	357.03	112.48	.00	.00	22.80	734.15
BFA	.00	.00	208.97	368.54	414.54	1711.30	563.45	.00	.00	120.33	3387.14

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LUAU PEST #4 IDENT NO. = 106

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	9.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	12.5	22.0
	BA	3.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	3.3	6.7
	CFA	84.2	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	74.3	158.5
	BFA	338.9	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	283.6	622.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	22.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	40.7	63.0
	BA	13.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	23.3	36.7
	CFA	373.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	648.8	1021.9
	BFA	1730.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2984.1	4714.5
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	68.6	18.1	1.7	3.1	2.7	.0	.0	.0	.0	.0	.0	.0	8.5	102.8
	BA	73.3	20.0	3.3	3.3	3.3	.0	.0	.0	.0	.0	.0	.0	6.7	110.0
	CFA	2244.4	618.1	110.3	101.7	103.7	.0	.0	.0	.0	.0	.0	.0	194.3	3372.5
	BFA	11331.2	3127.6	579.2	512.7	529.1	.0	.0	.0	.0	.0	.0	.0	944.8	17024.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	100.5	18.1	1.7	3.1	2.7	.0	.0	.0	.0	.0	.0	.0	61.6	187.8
	BA	90.0	20.0	3.3	3.3	3.3	.0	.0	.0	.0	.0	.0	.0	33.3	153.3
	CFA	2701.7	618.1	110.3	101.7	103.7	.0	.0	.0	.0	.0	.0	.0	917.5	4552.9
	BFA	13400.5	3127.6	579.2	512.7	529.1	.0	.0	.0	.0	.0	.0	.0	4212.4	22361.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LUAU PEST #4 IDENT NO. = 106

HABITAT TYPE *** AVERAGE LPP DBH 5+ 12.88
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	9.55	12.22	39.81	37.29	15.64	5.66	5.97	126.15
B/A	.00	.00	.00	3.33	6.67	30.00	36.67	20.00	10.00	13.33	120.00
TOT MORT.	.00	.00	.00	.00	.00	8.49	9.35	.00	1.89	3.22	22.95
CUR. ATCK.	.00	.00	.00	.12	.25	8.49	6.24	1.41	1.89	1.53	19.92
CFA	.00	.00	.00	84.16	183.83	869.41	1105.48	625.77	326.40	440.37	3635.41
BFA	.00	.00	.00	338.86	835.73	4201.42	5526.70	3204.09	1705.82	2336.57	18149.18

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	.0	.00	9.4	.15	11.9	.31	20.4	10.88	19.4	8.54	11.4	4.25	1.5	2.30	1.6	1.18
2	.0	.00	.0	.00	.0	.00	9.2	.17	11.5	.38	11.8	8.61	11.8	7.62	4.4	7.02	.5	1.00	1.0	.55
3	.0	.00	.0	.00	.0	.00	9.0	.20	11.1	.45	7.7	4.16	7.5	4.24	.9	3.47	.3	.18	.8	.19
4	.0	.00	.0	.00	.0	.00	8.8	.22	10.6	.50	6.2	1.45	5.9	1.65	.4	.49	.3	.02	.8	.06
5	.0	.00	.0	.00	.0	.00	8.6	.24	10.0	.53	5.8	.44	5.3	.54	.4	.04	.3	.00	.8	.02
6	.0	.00	.0	.00	.0	.00	8.3	.25	9.5	.54	5.7	.13	5.2	.17	.4	.00	.3	.00	.8	.00
7	.0	.00	.0	.00	.0	.00	8.1	.26	9.0	.52	5.6	.04	5.1	.05	.4	.00	.3	.00	.8	.00
8	.0	.00	.0	.00	.0	.00	7.8	.26	8.5	.47	5.6	.01	5.1	.02	.4	.00	.3	.00	.8	.00
9	.0	.00	.0	.00	.0	.00	7.6	.25	8.1	.40	5.6	.00	5.1	.00	.4	.00	.3	.00	.8	.00
10	.0	.00	.0	.00	.0	.00	7.3	.23	7.8	.33	5.6	.00	5.1	.00	.4	.00	.3	.00	.8	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	.00	7.32	7.79	5.62	5.10	.36	.25	.76	27.22
B/A	.00	.00	.00	2.56	4.25	4.23	5.02	.47	.45	1.70	18.68
CFA	.00	.00	.00	64.54	117.18	122.67	151.28	14.60	14.66	56.27	541.20
BFA	.00	.00	.00	259.83	532.74	592.79	756.32	74.74	76.62	298.56	2591.60

BARK BEETLE SURVEY
---SPECIES LP ---

0/ 4/27

FOREST NUMBER = 14 DISTRICT NO. = 4 FOREST NAME = KOOTENAI STAND = LUAU PEST #7 IDENT NO. = 105

DIAMETER CLASS		UNDAM. STAND	CUR. ATTACK	LAST YEAR'S ATTACK	OLDER ATTACK	UNSUC. ATTACK	CUR. STRIP ATTACK	OLDER STRIP ATTACK	CUR. SEC. ATTACK	OLDER SEC. ATTACK	SEC. STRIP ATTACK	OTHER I+D PROB.	OTHER DAM. AGENTS	OTHER MORT.	STAND TOTAL
0- 4.9	TA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	BA	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
5- 8.9	TA	61.8	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	7.5	69.3
	BA	16.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	2.0	18.0
	CFA	346.3	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	44.6	390.9
	BFA	1339.5	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	170.1	1509.6
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
9-11.9	TA	53.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	53.4
	BA	30.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	30.0
	CFA	833.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	833.4
	BFA	3817.4	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	3817.4
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
12 +	TA	39.6	12.2	6.4	16.4	6.3	1.6	.0	.0	.0	.0	.0	.0	5.1	87.7
	BA	38.0	14.0	8.0	20.0	6.0	2.0	.0	.0	.0	.0	.0	.0	6.0	94.0
	CFA	1146.0	433.1	249.8	624.4	180.2	62.2	.0	.0	.0	.0	.0	.0	186.9	2882.7
	BFA	5716.7	2198.5	1277.6	3185.7	897.3	317.5	.0	.0	.0	.0	.0	.0	950.9	14544.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
TOTALS	TA	154.7	12.2	6.4	16.4	6.3	1.6	.0	.0	.0	.0	.0	.0	12.6	210.3
	BA	84.0	14.0	8.0	20.0	6.0	2.0	.0	.0	.0	.0	.0	.0	8.0	142.0
	CFA	2325.7	433.1	249.8	624.4	180.2	62.2	.0	.0	.0	.0	.0	.0	231.5	4107.0
	BFA	10873.5	2198.5	1277.6	3185.7	897.3	317.5	.0	.0	.0	.0	.0	.0	1121.0	19871.1
	APAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
	EPAI	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0

FOREST NUMBER= 14 DISTRICT NO. = 4 FOREST NAME =KOOTENAI STAND = LUAU PEST #7 IDENT NO. = 105

HABITAT TYPE *** AVERAGE LPP DBH 5+ 10.18
MOUNTAIN PINE BEETLE MODEL
FOR LODGEPOLE PINE

LODGEPOLE PINE TREES PER ACRE ,BASAL AREA, AND VOLUME
BEFORE AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.37	41.39	29.11	52.26	27.99	19.61	5.93	1.02	197.68
B/A	.00	.00	4.00	12.00	14.00	38.00	28.00	26.00	10.00	2.00	134.00
TOT MORT.	.00	.00	.00	.00	.00	5.09	13.69	10.42	4.80	1.02	35.03
CUR. ATCK.	.00	.00	.08	.53	.60	2.55	4.04	4.49	1.13	.15	13.57
CFA	.00	.00	66.96	279.34	379.20	1095.50	846.31	817.55	324.51	66.15	3875.53
BFA	.00	.00	252.31	1087.17	1670.00	5265.10	4238.79	4197.50	1691.70	347.55	18750.11

TREES PER ACRE LOSS DURING 10 YEAR OUTBREAK

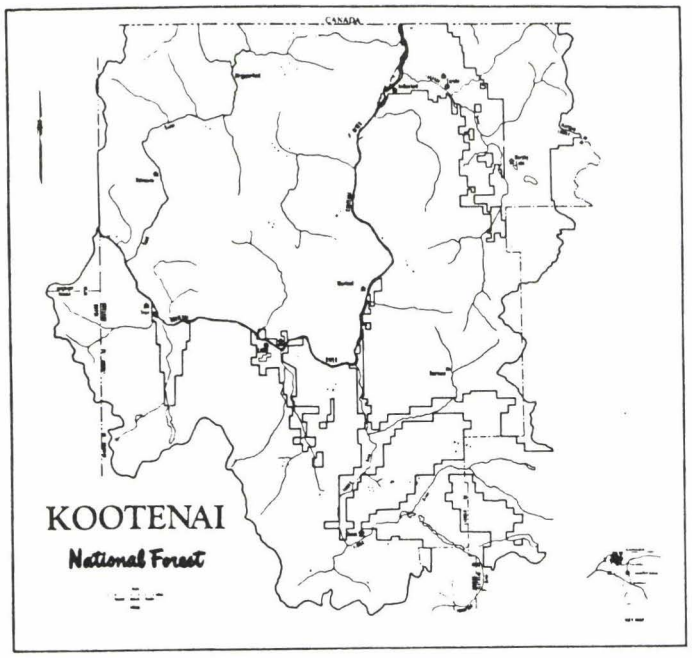
	0-2.9		3-4.9		5-6.9		7-8.9		9-10.9		11-12.9		13-14.9		15-16.9		17-18.9		19+	
YEAR	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT	GT	MORT
1	.0	.00	.0	.00	20.3	.05	40.8	.63	28.4	.75	43.3	3.84	9.0	5.29	1.6	7.55	.2	.96	.0	.00
2	.0	.00	.0	.00	20.3	.03	40.0	.74	27.5	.91	38.1	5.22	4.9	4.08	.1	1.55	.0	.14	.0	.00
3	.0	.00	.0	.00	20.3	.02	39.2	.85	26.4	1.06	32.0	6.09	3.1	1.84	.1	.04	.0	.01	.0	.00
4	.0	.00	.0	.00	20.3	.01	38.2	.95	25.2	1.19	26.1	5.89	2.5	.58	.0	.00	.0	.00	.0	.00
5	.0	.00	.0	.00	20.3	.01	37.2	1.04	23.9	1.27	21.5	4.66	2.3	.16	.0	.00	.0	.00	.0	.00
6	.0	.00	.0	.00	20.3	.00	36.1	1.10	22.6	1.28	18.4	3.09	2.3	.04	.0	.00	.0	.00	.0	.00
7	.0	.00	.0	.00	20.3	.00	35.0	1.13	21.4	1.23	16.6	1.80	2.3	.01	.0	.00	.0	.00	.0	.00
8	.0	.00	.0	.00	20.2	.00	33.8	1.13	20.3	1.11	15.6	.97	2.3	.00	.0	.00	.0	.00	.0	.00
9	.0	.00	.0	.00	20.2	.00	32.8	1.09	19.3	.96	15.1	.50	2.3	.00	.0	.00	.0	.00	.0	.00
10	.0	.00	.0	.00	20.2	.00	31.7	1.01	18.6	.79	14.9	.25	2.3	.00	.0	.00	.0	.00	.0	.00

LODGEPOLE PINE TREES PER ACRE BASAL AREA AND VOLUME
AFTER AN OUTBREAK

	0-2.9	3-4.9	5-6.9	7-8.9	9-10.9	11-12.9	13-14.9	15-16.9	17-18.9	19+	TOTAL
T/A	.00	.00	20.25	31.74	18.56	14.86	2.28	.05	.03	.00	87.76
B/A	.00	.00	3.98	9.20	8.92	10.81	2.28	.07	.05	.00	35.30
CFA	.00	.00	66.55	214.19	241.72	311.50	68.99	2.05	1.50	.00	906.51
BFA	.00	.00	250.77	833.62	1064.54	1497.12	345.53	10.55	7.82	.00	4009.94

APPENDIX II

Chronology of mountain pine beetle infestations, Kootenai National Forest, 1973-1987.



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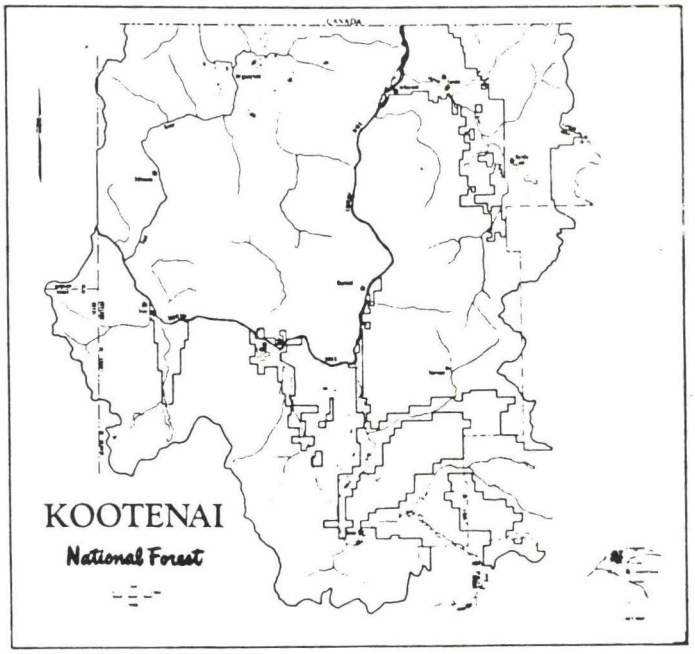
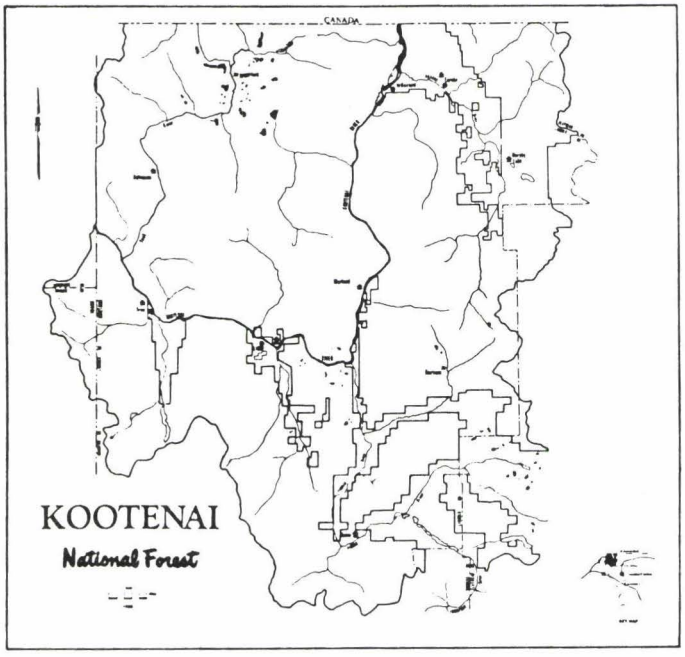


1974



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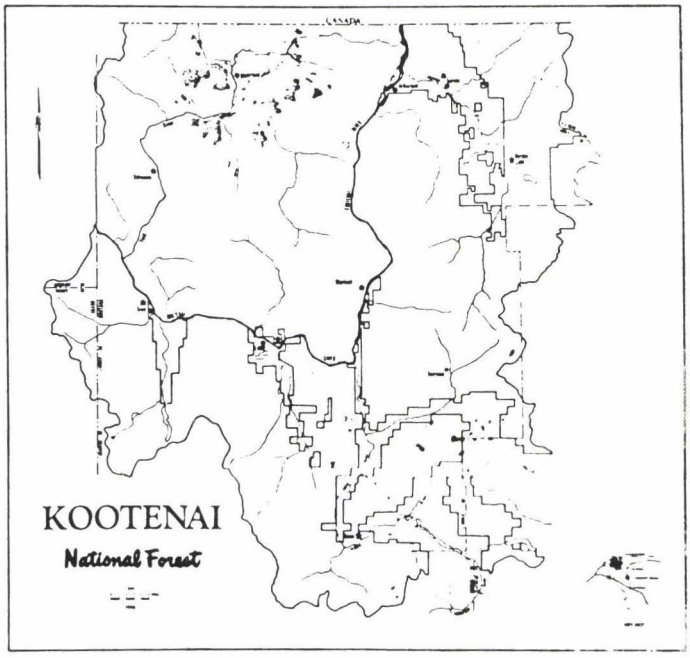
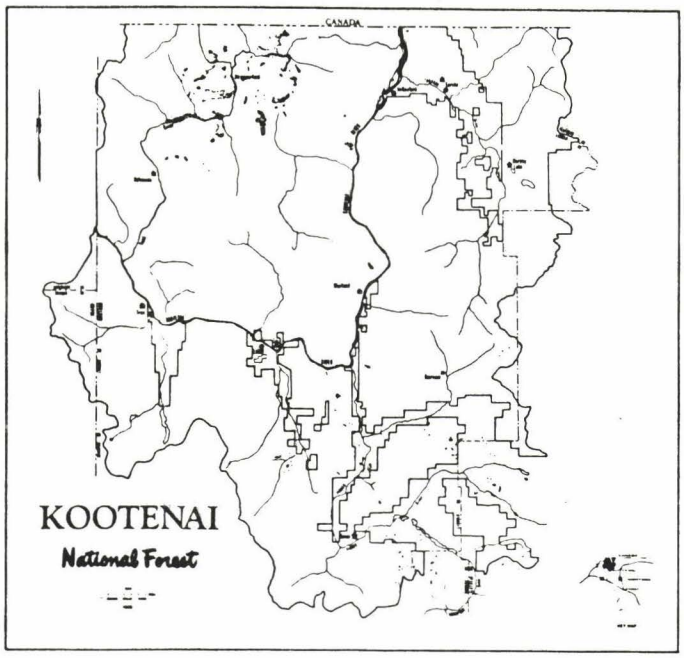
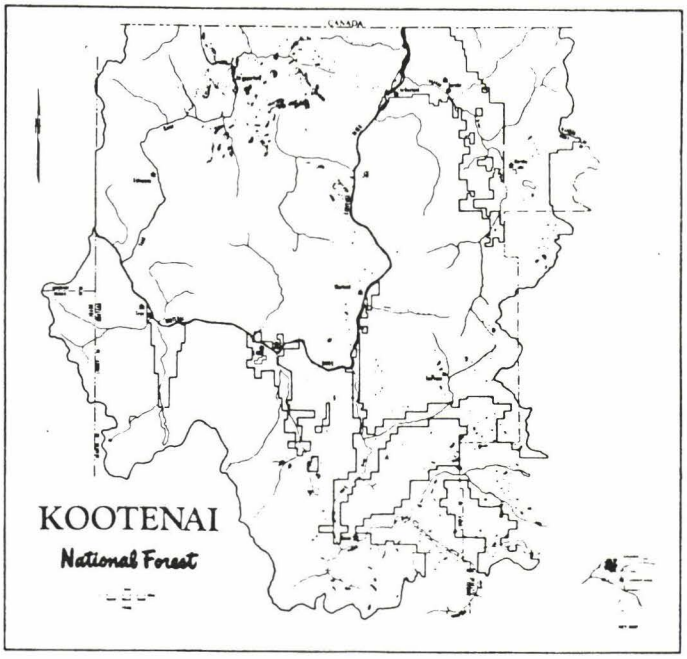


1976

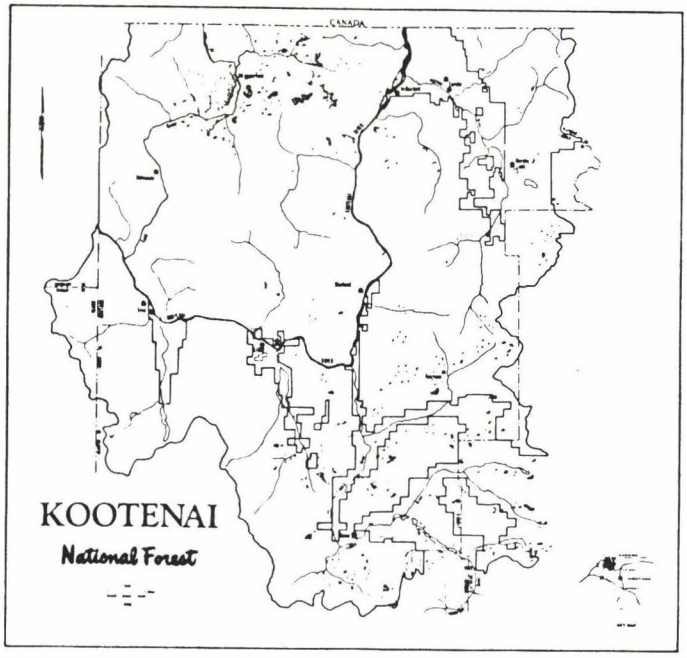
Chronology of mountain pine infestation, Kootenai National Forest, Montana, 1973-1987.



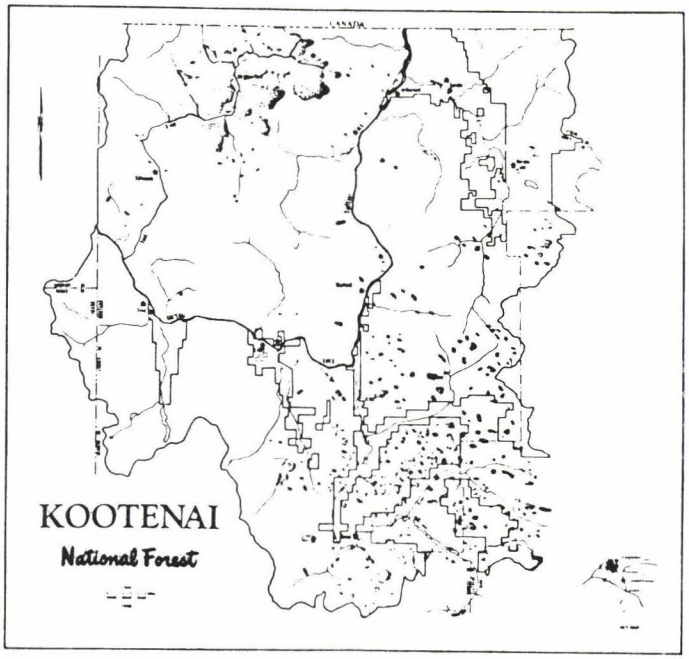
1977



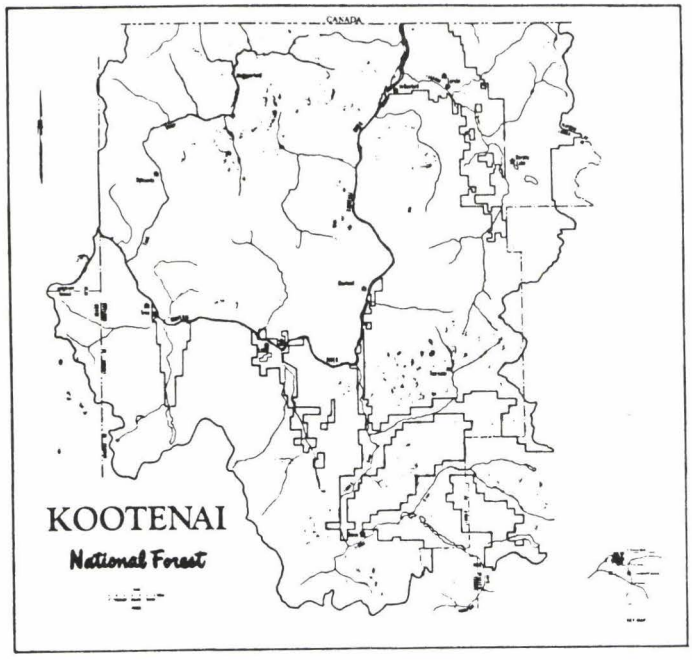
1978

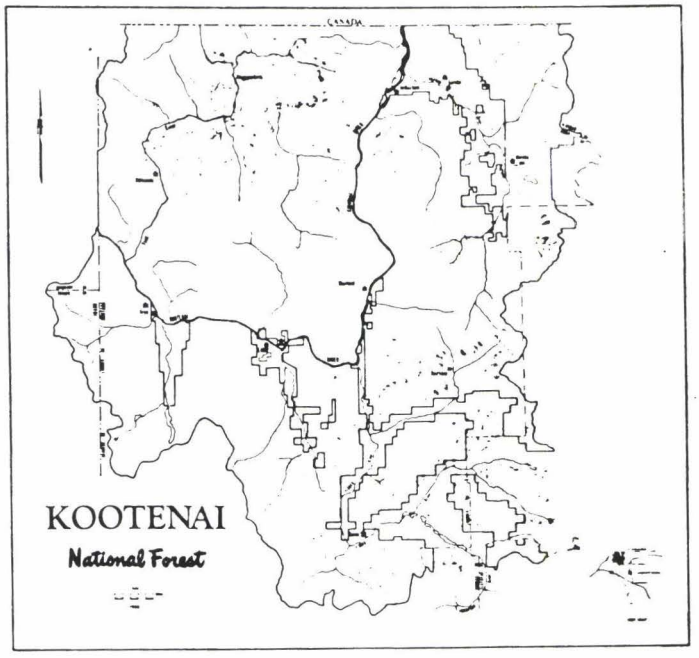


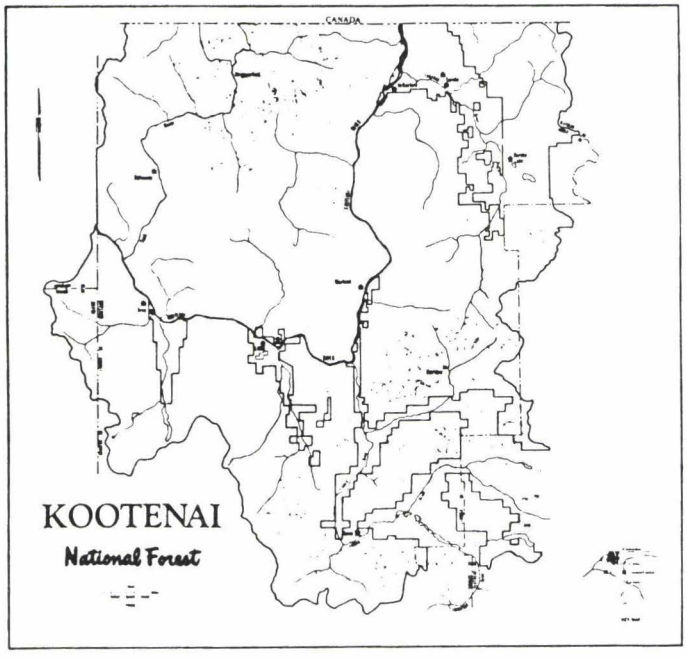
1979

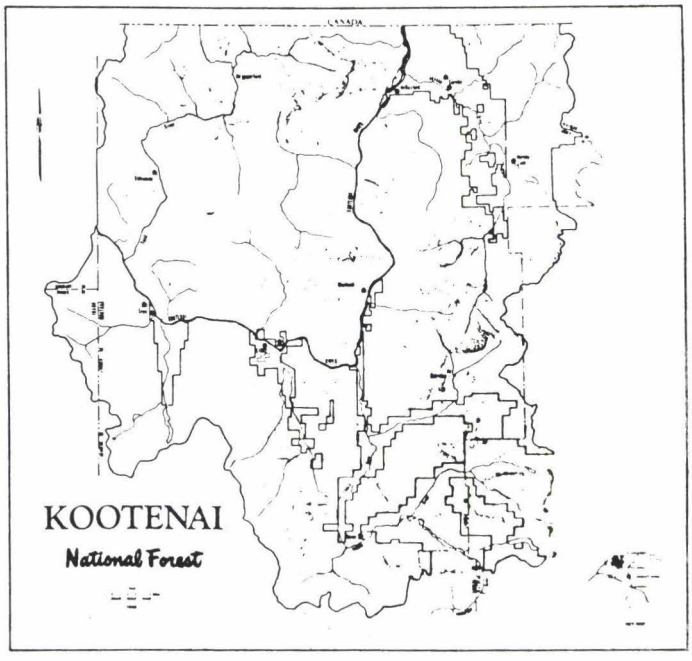


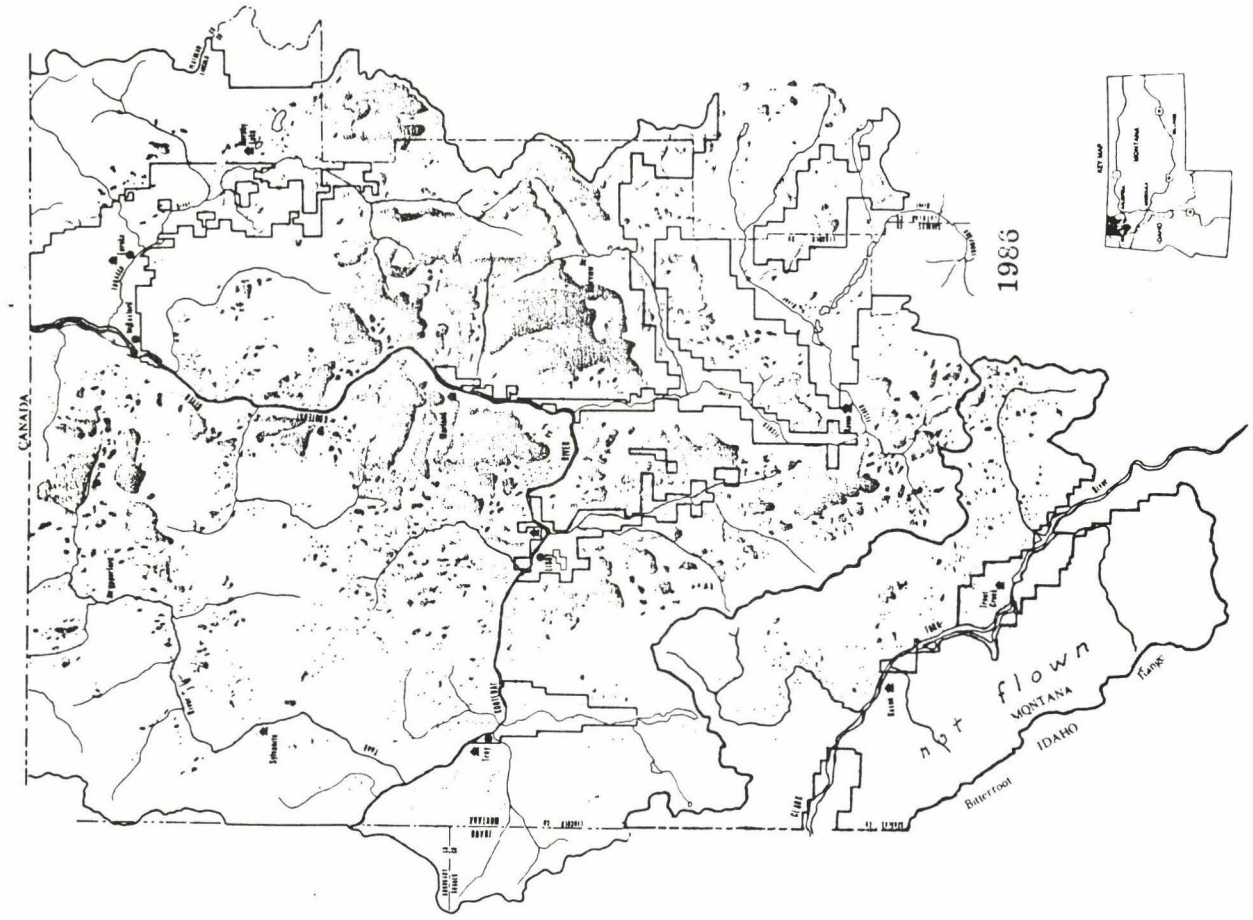
1980

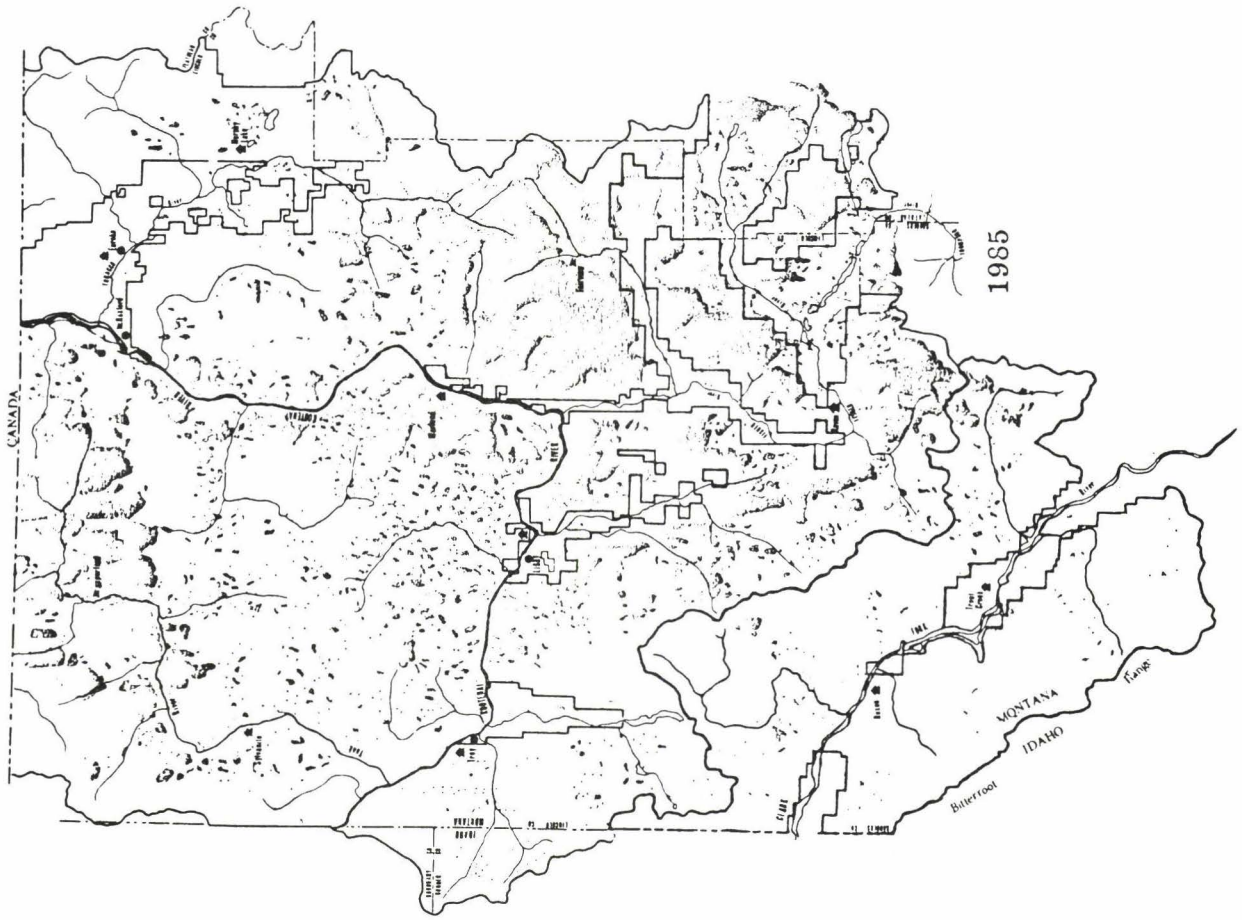

CANADA
KOOTENAI
National Forest


CANADA
KOOTENAI
National Forest


CANADA
KOOTENAI
National Forest


CANADA
KOOTENAI
National Forest


1986
not flown
CANADA
MONTANA
IDAHO
Bitterroot
Range


1985
CANADA
MONTANA
IDAHO
Bitterroot
Range

CANADA
NOT FLOWN
Bitterroot
IDAHO
MONTANA
1986

CANADA
NOT FLOWN
Bitterroot
IDAHO
MONTANA
1987
KEY MAP